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Thirty-Second Biennial Report

OF THE

NORTH CAROLINA  
STATE BOARD HEALTH



JULY 1, 1946—JUNE 30, 1948



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Term expires 1951

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Term expires 1951

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Term expires 1949



## LETTER OF TRANSMITTAL

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Raleigh, N. C., 1948.

*His Excellency*, R. GREGG CHERRY,  
*Governor of North Carolina.*

MY DEAR SIR:—Under Authority of Chapter 118, Article 1, Section 7050, Consolidated Statutes of North Carolina, I have to submit to you for transmission to the General Assembly the Biennial Report of the State Board of Health for the period July 1, 1946, to June 30, 1948.

Yours sincerely,

JOHN W. R. NORTON,  
*Secretary and State Health Officer.*

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## THE CHRONOLOGICAL DEVELOPMENT OF PUBLIC HEALTH WORK IN NORTH CAROLINA

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In the seventies Dr. Thomas Fanning Wood, of Wilmington, caught the vision of the possibilities of public health work to North Carolina. How fully he grasped the far-reaching consequences of his idea, how clearly he saw the ever-growing hosts of lives saved as a result of his vision and inspiration, we shall never know. We do know that the vision never left him, and that under its sway he worked, through the *Medical Journal* which he edited and through the North Carolina State Medical Society until his influence reached the people of the State in their General Assembly of 1877, with the effect that on February 12, 1877, the North Carolina State Board of Health was born. Ours was the twelfth state board of health to be established.

Without treating the development of the newly-established board with that thoroughness that could be termed history, we think it enough to set down here in chronological order the principal events in the life and growth of the North Carolina State Board of Health.

1877. Board created by the General Assembly. Consisted in the beginning of entire State Medical Society. Society acted through a committee. Annual appropriation, \$100.
1878. First educational pamphlet issued. Subject, "Timely Aid for the Drowned and Suffocated." Annual appropriation, \$100.
1879. The General Assembly reconstituted the Board of Health. Made it to consist of nine members: six appointed by the Governor, three elected by the State Medical Society. Term of office, five years. Dr. Thomas F. Wood elected first Secretary of the Board, May 21. Dr. S. S. Satchwell was first President of the Board. Other legislative provisions: (1) Chemical examination of water, and (2) organization of county boards of health, composed of all regular practicing physicians and, in addition, the mayor of the county town, the chairman of the board of county commissioners, and the county surveyor. Four educational pamphlets issued. Subjects: "Disinfection, Drainage, Drinking Water, and Disinfectants"; "Sanitary Engineering"; "Methods of Performing Post-mortem Examinations"; "Limitation and Prevention of Diphtheria." Annual appropriation, \$200.
1880. Much of the activity this year was devoted to efforts to control diphtheria. Prompt reporting of cases was urged. Water supplies and sewage disposal provoked much discussion. A survey of schoolhouses was carried out through the County Superintendents of Health. Most of the public schoolhouses were of one-teacher size, of frame and log construction, and none of them in rural districts had any type of privy.

1881. General Assembly passed a law requiring regulation of vital statistics at annual tax listing; law ineffective. Annual appropriation, \$200.
1882. Dr. Thomas F. Wood, State Health Officer, was President of the North Carolina Medical Society and the annual meeting was held in Concord. At this meeting the State Board of Health appointed a committee for each county of one physician to "canvass (the people) in the interest of prospective legislation" on public health matters. The subject of the annual essay presented by Dr. W. P. Beall of Greensboro was "Preventive Medicine." The chief items of public health interest this year was the emphasis placed on the effectiveness of smallpox vaccination and the increasing realization of polluted water as a source of typhoid fever.
1883. Dr. J. W. Jones of Wake Forest was elected to membership on the State Board of Health by the State Medical Society at its annual meeting at Tarboro. Dr. Jones became at once an active "friend and promoter of sanitary work." Due to his efforts, a meeting of all county superintendents of health was called in Raleigh early in the next session of the Legislature. One of the chief purposes of the proposed meeting was to urge the enactment of vital statistics legislation, and to procure a small appropriation for printing.
- Several epidemics of smallpox with numerous deaths were reported—one of the most severe was in Clay and Graham counties.
1884. Dr. Wood, Secretary and Treasurer of the State Board of Health made a pessimistic report this year. He said that "during the year little more had been done than to issue pamphlets on the subject of city sanitation." Dr. Wood pointed out that it was impossible to inaugurate public health work to say nothing of carrying it on without some money at least.
- The State Medical Society adopted a resolution at its conjoint session held in Raleigh requiring the President of the Medical Society to appoint a committee "to go before the Legislature and request an adequate appropriation to be used by the Board in behalf of the high and humane objects of the Board."
1885. General Assembly made county boards of health more efficient; allowed printing privileges not to exceed \$250 annually. Annual appropriation, \$2,000.
1886. *The Health Bulletin* made its appearance in April. Pamphlet on "Care of Eyes and Ears," by Dr. Richard H. Lewis, printed and distributed.
1887. Fear of yellow fever which had made its appearance late in the year through the port of Key West, Florida, where a patient with the disease had been smuggled in, was one of chief concern to the Board. Much interest and discussion in the Board member-



ship and throughout the state this year centered about the necessity for providing some safe method of drinking water and sewage disposal.

1888. Yellow fever epidemic in Florida and refugees to Western North Carolina demonstrated value of a Board of Health to cope with situation. Annual appropriation, \$2,000.

1889. The chief item of interest and importance to the cause of public health was a state-wide "sanitary convention" held in Raleigh February 6. It was largely attended by physicians and others from many cities and towns who were much concerned about the problems of a pure water supply and sewage disposal. The Board published an exhaustive paper by Dr. H. T. Bahnson of Salem, President of the Board, entitled: "The Public Water Supply of Towns and Cities in North Carolina."

Providing refuge for hundreds of people who had fled from their homes farther south on account of yellow fever was a grave problem.

1890. A widespread epidemic of influenza or as it was commonly called at the time "grip" or "La Grippe," spread over the state in January. The epidemic appeared first in Russia about November 1, 1889. By December 15, 1889, 200,000 cases were reported in New York alone. It struck North Carolina during the first week in January and in two weeks time it was reported to be raging in 68 counties.

1891. Influenza continued to be present in all sections of the state throughout the year. The conjoint session met in Asheville on May 27. The term of Dr. W. D. Hilliard of Asheville as a member of the Board expired this year. Dr. S. Westray Battle also of Asheville was elected to succeed Dr. Hilliard. Dr. Thomas F. Wood was re-elected Secretary and Treasurer for a term of six years.

1892. Dr. Thomas F. Wood, the Secretary of the Board, died August 22. Dr. Richard H. Lewis elected Secretary to succeed Dr. Thomas F. Wood, September 7. Annual appropriation, \$2,000.

1893. Legislative provisions, (1) Laws improving the reporting of contagious diseases, (2) the protection of school children from epidemics, (3) protecting the purity of public water supplies, and (4) regulation of common carriers. Legislature provided that the Governor appoint five of the nine members of the Board of Health, that the State Medical Society elect four, and that the term of office of the members of the State Board of Health be six years. The \$250 printing limit was removed. Pamphlet on quarantine and disinfection was prepared and reprinted by many of the state papers. Annual appropriation, \$2,000.

1894. A number of public health conferences were arranged and held in different towns of the state. *Bulletin* was increased from a mailing list of 800 to 1,200. Annual appropriation, \$2,000.

1895. Dr. Albert Anderson and Dr. W. T. Pate were elected bacteriologists for the Board. Annual appropriation, \$2,000.
1896. Board passed a resolution requiring chemical and bacteriological examinations of municipal water supplies. Dr. Venable, of Chapel Hill, undertook the chemical examination, and Drs. Anderson and Pate the bacteriological examination. Board also directed Mr. John C. Chase, the engineer member, to inspect all municipal water plants in the state. Annual appropriation, \$2,000.
1897. General Assembly enacted law requiring county superintendents of health to be elected by county commissioners and reduced term of office to one year. Annual appropriation, \$2,000.
1898. The address of the President of the North Carolina Medical Society this year by Dr. Francis Duffy of New Bern was devoted almost exclusively to the promotion of public health. It really marked an epoch as sounding an advanced note in the advancement of human progress.
- The State Health Officer, Dr. R. H. Lewis, devoted a great deal of time and energy to try to arouse the people of the state to the necessity for vaccination against smallpox.
1899. General Assembly improved the laws protecting public water supplies. Smallpox prevailed extensively in the state. Dr. Henry F. Long, and later, on Dr. Long's resignation, Dr. Joshua Tayloe, were employed to travel over the state, consulting with and advising the local sanitary authorities as to proper means for protecting the public. Annual appropriation, \$2,000.
1900. State Board of Agriculture, on request of State Board of Health, agreed to examine samples of water from public water supplies until Board of Health could provide its own examiner. Annual appropriation, \$2,000.
1901. State Board of Embalmers, with representatives of State Board of Health, established. County health work placed in the hands of county sanitary committees composed of county commissioners and two physicians which commissioners elected to serve with them. Term of office of county superintendent of health made two years. Annual appropriation, \$2,000.
1902. This year will be long remembered for the widespread prevalence of smallpox in virulent form. It caused many deaths in different sections in the early months of the year. In one county at least fifty people died, including many well-to-do men. Not having any system of vital statistics reports, it is impossible to even estimate the number of cases, except from physicians' voluntary reports and death notices in the newspapers.
1903. General Assembly enacted law permitting Board of Health to charge \$5 for each analysis of a public water supply, this fee to be used in paying Department of Agriculture for services of ex-

aminer. Dr. C. W. Stiles, U.S. P.H.S., before the State Medical Society at Hot Springs, called attention to prevalence of hook-worm disease in the South. Dr. J. L. Nicholson and Dr. W. S. Rankin, working under State Board of Health during fall of 1903 and spring of 1904, showed great prevalence of this disease in North Carolina. Annual appropriation, \$2,000.

1904. A stenographer was employed. One hundred and twenty thousand pamphlets on tuberculosis were printed and distributed. There was a renewal and an extension of cooperative work between the Board of Health and the state press, a number of articles dealing with hygienic and sanitary subjects being furnished the papers and published in them. Annual appropriation, \$2,000.
1905. General Assembly established State Laboratory of Hygiene; imposed water tax of \$64 on all public water companies; voted \$600 annually for the support of laboratory. Small appropriation made it necessary for the Department of Agriculture to continue to assist State Board of Health. Annual appropriation, \$2,000.
1906. The North Carolina Association for the Study and Prevention of Tuberculosis was organized. Annual appropriation, \$2,000.
1907. Two thousand dollars appropriated for the State Laboratory of Hygiene. Pasteur treatment provided. State Sanatorium for treatment of tuberculosis founded; \$15,000 appropriated for permanent improvements and \$5,000 for maintenance. A law requiring the separation of tuberculosis prisoners from other prisoners was enacted. Annual appropriation, \$4,000.
1908. January 1, Dr. C. A. Shore became Director of State Laboratory of Hygiene. Annual appropriation, \$4,000.
1909. General Assembly provided for (1) whole-time State Health Officer; (2) collection of vital statistics of towns having a population of 1,000 or over; (3) that all public water companies file plans and specifications of their plants with the State Board of Health, and that the State Board of Health pass necessary rules and regulations for the care of public watersheds and plants and furnish such rules and regulations and other advice to those having charge of public water supplies; (4) that counties provide free diphtheria antitoxin for county indigents, and (5) that the maintenance appropriation for the Sanatorium be increased from \$5,000 to \$7,500, and an additional \$30,000 be granted for permanent improvements. Dr. Richard H. Lewis resigned as Secretary of the Board, and Dr. W. S. Rankin was elected as his successor, beginning his official work July 1. Annual appropriation, \$10,500.
1910. General effort to interest the people and state organizations in public health work. *Bulletin* increased from 3,500 edition to 10,500 edition. Addresses on public health work delivered to Conference of County Superintendents of Schools, State Federation of Women's Clubs, State Press Association, and Sanitary Sunday

observed in April. Dr. John A. Ferrell elected, February, Assistant Secretary for Hookworm Eradication; began work under State Board of Health and Rockefeller Sanitary Commission.

1911. Legislature established county boards of health to take the place of the county sanitary committees; county board of health composed of chairman board of county commissioners; county superintendent of schools, mayor of county town, and two physicians selected by the three county officials to serve with them. Legislature also abolished quarantine for smallpox and improved the quarantine laws. One thousand dollars annually appropriated to contract with antitoxin manufacturers for state supply of high-grade diphtheria antitoxin, with result that price of antitoxin was cut to one-fourth former price, saving the citizens of the state over \$30,000 annually. *Bulletin* increased from 11,500 copies to 20,000 copies each edition; closer cooperation with press of state developed; regular weekly press articles prepared and sent to papers; increase in numbers of popular pamphlets for distribution. Hookworm this year largely educational through the school forces and investigated through county dispensaries; thousands of children found infected and treated. Strong sentiment began to make itself felt for better health work by counties, four counties employing whole-time county health officers. Guilford County—one of the four—began its work June 1 and was the first county in the United States to inaugurate full-time county health work. Maintenance appropriation for State Sanatorium increased to \$12,500, with \$20,000 voted for permanent improvements. Annual appropriation, \$22,500.
1912. *Bulletin* increased to 40,000 edition; number of popular pamphlets dealing with different diseases increased; press work improved; educational work of Board along all lines amplified. Secretary of Board of Health called attention of conjoint meeting of State Medical Society and State Board of Health to the relative importance of health problems and the bearing of this subject upon the proper apportionment of health funds; instrumental in passing a resolution to the effect that pellagra was an interstate problem, not a state problem, and requesting the Federal Government to deal with pellagra as a Federal problem; resolution responsible, to considerable extent, for successful effort on part of Hon. John M. Faison's securing Congressional appropriation of \$45,000 for the study of pellagra by the Federal Government. Hookworm work extended and county funds appropriated to supplement state and Rockefeller Foundation for this work. Annual appropriation, \$22,500.
1913. General Assembly passed Model Vital Statistics Law with \$10,000 appropriation for its enforcement. County superintendent of health changed to either county physician or county health officer, depending on whether part-time or full-time service. Educational efforts of Board continued and enlarged. Hookworm work along

same line as year before increased in amount. Dr. John A. Ferrell resigned as Assistant Secretary to accept position with the central office of the Rockefeller Sanitary Commission in Washington, D. C. Dr. C. L. Pridgen succeeded Dr. Ferrell. The movement for improved county health work had by this time resulted in ten counties electing wholtime county health officers. The State Sanatorium for Treatment of Tuberculosis turned over by Extra Session of 1913 to the management of State Board of Health. Annual appropriation, \$40,500.

1914. Preceeding work of the Board continued. Board of Health took over management of Sanatorium; started out under many difficulties on account of the institution owing many debts and the appropriation being limited. Hookworm work changed to community work directed to the installation of sanitary privies in all homes. Laboratory began to produce and distribute free anti-typhoid vaccine. Dr. C. L. Pridgen resigned as Director Hookworm Eradication, and Dr. W. P. Jacocks succeeded him. Annual appropriation, \$40,500.
1915. General Assembly makes state vital statistics law conform to national model by requiring burial permits in rural communities; enacts legislation permitting county commissioners and towns and cities to appropriate money for support of tuberculosis citizens in State Sanatorium; provides \$15,000 for purchase and building of antitoxin plant; appropriates \$60,000 for payment of Sanatorium debts and new buildings and other improvements. and \$25,000 annually for maintenance and \$10,000 for extension anti-tuberculosis work. Educational work greatly extended: *Bulletin* now 47,000; traveling public health exhibit shown at fairs and other assemblages; press work greatly developed through employment of Miss Kate Herring, a journalist, for her whole time; stock lectures with lantern slides supplied public speakers in different parts of the state; community soil pollution work under Dr. W. P. Jacocks stops in April, and Bureau of Rural Sanitation, with Dr. G. M. Cooper at its head, succeeds, beginning work May 1. Considerable amount of work done for improvement of prison conditions. The unit system of county health work gets a good start; over 52,000 people given three complete vaccinations against typhoid fever, and medical inspection of schools put on in six counties. Annual appropriation, \$50,500.
1916. North Carolina was admitted to the Registration Area for deaths. To the educational agencies of the Board was added a self-supporting moving picture health show. Many saw this show during the year and, seeing, believed in health work as never before. *Bulletin* reached 51,000 edition. Cooperation with University in developing a plan and putting on a home post-graduate course in medicine, giving first course to 169 doctors. Put into operation an optional system of hotel inspection, with grading and publishing scores. Continued Bureau of Rural Sanitation, giving three

anti-typhoid injections to 48,000, making 100,000 immunized in summers of 1915 and 1916. Did complete medical inspection of six counties and with inspection a large amount of educational work as to sanitary and hygienic living. Secured effort by Federal Children's Bureau to develop unit of child hygiene work, the Bureau using two employees to work in Cumberland and Swain counties for about eight months. Laboratory of Hygiene buys land and erects its own building. Annual appropriation, \$55,500.

1917. The General Assembly passed the following important health legislation: Chapter 263, entitled "An act to prevent and control the occurrence of certain infectious diseases in North Carolina"; Chapter 244, entitled "An act to provide for the physical examination of the school children of the state at regular intervals"; Chapter 276, entitled "An act for the cooperative and effective development of rural sanitation"; Chapter 257, entitled "An act to prevent blindness in infancy, designating certain powers and duties and otherwise providing for the enforcement of this act"; Chapter 66, entitled "An act to provide for the sanitary inspection and conduct of hotels and restaurants"; Chapter 286, entitled "An act to regulate the treatment, handling and work of prisoners." Following the enactment of this legislation, administrative machinery, consisting of a Bureau of Epidemiology under the direction of Dr. A. McR. Crouch, a Bureau for the Medical Inspection of Schools under the direction of Dr. Geo. M. Cooper, and a Bureau for County Health work, under the direction of Dr. B. E. Washburn, was established. Dr. Washburn, an officer of the International Health Board, was loaned to the state without cost, and the International Health Board, in addition to furnishing Dr. Washburn, appropriated \$15,000 annually for County Health Work in accordance with the provisions of Chapter 276.

The United States Public Health Service in February, 1917, detailed Dr. K. E. Miller to study county health work in different sections of the country and to establish for demonstration purposes, in Edgecombe County, a department of health on an economic basis easily within the financial reach of the average county.

The State Laboratory of Hygiene moved into its own building January 15, 1917.

The state was admitted to the registration area of the Union for births in January, 1917, the Bureau of the Census having found after investigation that our birth registration was 96 per cent complete.

The special campaign against typhoid fever began so satisfactorily in 1915 was continued. Free vaccination of the people, however, was interfered with by the difficulty in securing medical officers to do the work, the preparedness program of the Government having caused many physicians and nurses to enter the army and navy; nevertheless, a total of 30,000 citizens of the

state were vaccinated as a direct result of the Board's activities, and many thousands of others were vaccinated by the physicians of the state as a result of the educational work of the Board directed to impressing the people with the value of vaccination as a means of prevention for typhoid fever.

In December, 1917, life extension work, which consisted briefly of the free physical examination of interested citizens for the purpose of advising them as to their physical condition and needed hygiene reform and medical treatment, was begun on a county basis. The funds necessary for this work were appropriated partly by the state and partly by the counties in which the life extension work was carried out. Dr. Amzi J. Ellington, of Raleigh, who at the time was a resident physician in the New York City Hospital, was employed and placed in charge of the work. Life extension work was carried out in Vance, Alamance, Lenoir, and Robeson counties, and resulted in the full physical examination of 4,000 citizens. This work was very favorably received, and the outlook for its continued development seemed excellent when, with the declaration of war and the call for physicians to enter the military service of the country, Dr. Ellington enlisted in the Medical Corps of the Army. For this reason, and for the further reason that it has been almost impossible to secure health officers during the past two years, the work was not resumed.

The educational work of the State Board of Health consisted in the issuance of eight issues of the *Monthly Health Bulletin*, each monthly edition amounting to 45,000, and a daily newspaper health article. The Bureau continued its moving picture show exhibit. Arrangements were made for the preparation of newspaper plate, which was sent to and extensively used by 202 papers having a total circulation of 303,000.

The annual appropriation for the State Board of Health was \$60,772.16. The annual appropriation for the State Laboratory of Hygiene was \$12,500, and this, in addition to \$9,087.22 in fees permitted under the laws of the state to be paid to the Laboratory for special work, provided the Laboratory with a total annual budget of \$21,587.22.

1918. Much of the work this year was influenced by the war and has to do with preparedness. The State Health Officer visited Washington, at the request of the Council of National Defense and as chairman of a committee of State Health Officers, on a number of occasions for conferences with respect to preparedness measures, provisions for the control of venereal diseases, arrangements for coordinating the control of infectious diseases in the civilian population with their control in cantonments, and to arrange, if possible, with the Public Health Service and the Surgeon-General of the Army for preserving the personnel of state health departments during the war.

Considerable time was given to assisting Major John W. Long, Medical Aide to the Governor, in the work of organizing the

Medical Advisory Boards and in interesting physicians in entering the medical service of the Army and Navy, and later in the year, in inducing the physicians of the state to become members of the Volunteer Medical Service Corps.

Partly as a result of these activities, the Surgeon-General of the Army assigned Major Joseph J. Kinyoun to assist the State Board of Health in the control of communicable diseases, the Board being under no financial obligation for Major Kinyoun's assistance; and as a result of the successful termination of the activities of various interests looking to more effective control of venereal diseases, the Kahn-Chamberlain bill passed Congress, and made available to the State of North Carolina, and without condition, \$23,988.61 for venereal disease work.

The Laboratory during this year began the distribution of a high grade of diphtheria antitoxin.

The Bureau of Medical Inspection of Schools, under the direction of Dr. G. M. Cooper, developed, and with a degree of success that we may say established, free dental clinics for the public schools of the state. The Bureau also developed to a successful extent an arrangement in the form of adenoid and tonsil clubs for the practical and economic treatment of public school children suffering from these defects.

The Bureau of Epidemiology employed two third-year medical students, equipped them with motorcycles, and put them into the field to investigate infringements of the quarantine law. Sufficient convictions were obtained to impress the people with the determination of the state to enforce its health laws, and a fairly satisfactory compliance with the laws regarding the reporting of communicable diseases was brought about.

The Bureau of Venereal Diseases, paid for by the Federal appropriation, was established in September under the directorship of Dr. James A. Keiger.

Mr. Warren H. Booker, for the last seven years the efficient director of the Bureau of Engineering and Education, left in September for Red Cross work in France, the work of his bureau being continued, with the exception of the engineering work, by Mr. Ronald B. Wilson, who had been employed earlier in the year to succeed Miss Herring in assisting Mr. Booker with the journalistic work, Miss Herring having been engaged by the War Department for educational work.

Perhaps the most outstanding feature of the health work during the year 1918 was the epidemic of influenza. The epidemic began early in October and caused in October alone 6,056 deaths; in November 2,133 deaths, and in December 1,497 deaths, a total during the last three months of 9,686 deaths.

The annual appropriation for the State Board of Health for 1918 was \$73,210.38.



The annual appropriation for the State Laboratory of Hygiene was \$12,500. The Laboratory, during this year, collected \$8,532.48 in fees for special work, so that the total income of the Laboratory for this year was \$21,032.48.

1919. The General Assembly passed the following important health legislation: Chapter 71, entitled "An act to prevent the spread of disease from insanitary privies"; Chapter 192 entitled "An act to provide for the physical examination and treatment of the school children of the state at regular intervals"; Chapter 206 entitled "An act for the prevention of venereal diseases"; Chapter 213, entitled "An act to require the provision of adequate sanitary equipment for public schools"; Chapter 214, entitled "An act to obtain reports of persons infected with venereal diseases"; Chapter 215, entitled "An act to amend Chapter 671, Public-Local Laws of 1913, relating to the injunction and abatement of certain nuisances."

The Bureau of Engineering and Inspection was organized in April. The engineering work of the Board had been suspended with the resignation of Mr. Warren H. Booker in September, 1918, Mr. Booker having gone to France to engage in tuberculosis work under the direction of the Red Cross. Between September, 1918, and April, 1919, the engineering problems coming before the Board had been referred and very kindly and effectively taken care of by Col. J. L. Ludlow of Winston-Salem, the engineer member of the Board. Mr. H. E. Miller, an engineer and a graduate of the University of Michigan, was placed in charge of the new bureau, and his brother, Dr. K. E. Miller, of the United States Public Health Service, was detailed by the Service to assist him in the organization of his work. Mr. H. E. Miller and Dr. K. E. Miller spent the spring and summer and a part of the fall in studying various types of privies, in preparing plans for the construction and maintenance of privies, and in preparing the necessary notices and literature to inform the people of the objects and requirements of the new privy law.

On May 1 Dr. A. J. Warren, health officer of Rowan County, was appointed to and accepted the position of Assistant Secretary of the Board.

About the first of the year, Miss Herring returned to the educational work of the Board. After a few months she returned to the Federal Service, and Mr. R. B. Wilson, who had left the Board work upon Miss Herring's return, was again offered a place with the Board. Mr. Wilson accepted and assumed his duties on July 1.

On August 1 Dr. A. McR. Crouch, Director of the Bureau of Epidemiology, resigned to accept a position with the city of Wilmington. Dr. F. M. Register, whole-time health officer of Northampton County, succeeded Dr. Crouch as director of the bureau.

Dr. E. J. Wood resigned this year, effective at the end of his term, and Governor Bickett appointed Dr. E. J. Tucker of Roxboro for a six years term—first dentist to serve on the Board.

In September Dr. J. R. Gordon, Director of the Bureau of Vital Statistics since 1914, resigned on account of impaired health, and on October 1 the Bureau of Epidemiology and the Bureau of Vital Statistics were combined and placed under the direction of Dr. Register.

In September Mrs. Kate Brew Vaughn, Director of the Bureau of Infant Hygiene, resigned. The bureau was reorganized under an understanding with the American Red Cross and was enlarged to include, in addition to infant hygiene, the problem of public health nursing, the name of the bureau being changed to that of "Bureau of Public Health Nursing and Infant Hygiene." Under the agreement with the Red Cross this bureau was to have an available appropriation of \$12,000 a year, half of which was to be furnished by the American Red Cross and half by the State Board of Health. The personnel of the bureau and its plan of work, under the agreement, was made contingent upon the approval of both participating agencies, the American Red Cross and the State Board of Health. In December Miss Rose M. Ehrenfeld took charge of the new bureau and began its organization and work.

On October 1 Dr. Jas. A. Keiger, Director of the Bureau of Venereal Diseases, resigned and Dr. Millard Knowlton was appointed to succeed him.

The typhoid campaign carried on during the summer through previous years was continued in the summer of 1919, using third-year medical students, furnished either with automobiles or motor-cycles for getting about. Campaigns were carried out in the following counties: Bertie, Cabarrus, Chatham, Chowan, Columbus, Craven, Hertford, Iredell, Johnston, Lincoln, Onslow, Pasquotank, Perquimans, Randolph, Richmond, Rockingham, Stanly, Union, Warren, Wayne. A total of 49,076 were given complete vaccination.

The educational work of the Board consisted of the publication of a 48,000 monthly edition of the *Bulletin*, and the distribution of about 350,000 pieces of public health literature.

The funds available during this fiscal year amounted to \$198,549.14, of which \$102,301.98 was from state appropriations and the remainder from outside sources.

The appropriation for the State Laboratory of Hygiene for this year was \$28,500; in addition to this, the Laboratory collected in fees for special work, for antitoxin, and in water taxes a total of \$14,344.02, making a total of \$42,844.02 available for work of Laboratory.

1920. During this year there was a Special Session of the General Assembly, lasting twenty days and held in the latter part of August. This Special session passed an act amending the vital

statistics law, making the fees for local registrars 50 cents instead of 25 cents for each certificate properly filed with the State Board of Health.

On January 1 Dr. B. E. Washburn, who had had general direction of the cooperative county health work and who had rendered most acceptable service, was recalled by the International Health Board and detailed to take charge of their interests in Jamaica. Dr. K. E. Miller, of the United States Public Health Service, who had been detailed in January, 1917, to organize a model county health department in Edgecombe County and then, in 1919, to assist his brother, Mr. H. E. Miller, in organizing the work of the new Bureau of Engineering and Inspection, to which was assigned the duty of enforcing the state-wide privy act, succeeded Dr. Washburn as director of the Bureau of County Health Work.

In January a cooperative effort with the United States Public Health Service and the International Health Board to demonstrate the possibilities and advantage of the eradication of malaria from certain towns and cities in the eastern part of the state was begun. The terms of cooperation were that the International Health Board and the State Board of Health were to pay one-half of the expenses of the local work and the town or city in which the work was done the other half, the Public Health Service furnishing, as its part, expert supervising personnel. The towns and cities chosen for this work were Goldsboro, Farmville, and Greenville, the budget for each municipality being respectively: Goldsboro, \$13,670.98; Farmville, \$5,000, and Greenville, \$9,000, a total investment in this work of \$27,670.98. Mr. W. A. Fuchs, Associate Sanitary Engineer, was detailed by the Service to have supervision of the work.

In February Dr. A. J. Warren, Assistant Secretary of the State Board of Health, resigned his position in order to accept the appointment of city health officer of Charlotte, N. C.

In the winter and spring of 1920 the North Carolina Landowners Association, under the progressive leadership of Mr. W. A. McGirt, of Wilmington, undertook a very extensive educational campaign against malaria, which was carried on through the public schools of thirty-eight counties in eastern North Carolina. A series of county and state prizes for the best essay on malaria by public school children were offered as an inducement to the school children to interest and inform themselves and, indirectly, their parents with regard to the importance of this disease. To make possible this work by the school children 75,000 malaria catechisms, prepared by Dr. H. R. Carter, of the United States Public Health Service, were distributed through the public schools of the eastern part of the state to the school children. Thousands of essays were written, and it is reasonable to believe that the campaign was one of the most successful public health educational attempts yet undertaken.

In June it was found advisable to separate the Bureau of Epidemiology and the Bureau of Vital Statistics which had, on account of the scarcity of health officers, been placed under the directorship of a single bureau chief, Dr. F. M. Register. Dr. Register was appointed Director of the Bureau of Vital Statistics and Dr. J. S. Mitchener was appointed Director of the Bureau of Epidemiology.

In April the Interdepartmental Social Hygiene Board assigned to the State Board of Health several workers for making a study of vice conditions in North Carolina towns and cities and for taking such steps as were found expedient for decreasing prostitution. This group of workers was withdrawn in September on account of differences developing between them and Dr. Knowlton, chief of the Bureau of Venereal Diseases, with the understanding that another group of workers would be assigned to this work at a later date.

In June arrangements were made with the United States Public Health Service and the American Social Hygiene Association for the development of an elaborate educational unit on sex hygiene and venereal diseases designed to reach rural meetings through the use of picture films and a portable truck. An outfit consisting of several lecturers and a moving picture truck began work in Cumberland County in August, and from its very beginning met a most cordial reception and gave every promise of developing into one of the most useful agencies for dealing with the venereal disease problem.

During the year anti-typhoid vaccination campaign was continued in Alamance, Bladen, Columbus, Duplin, Franklin, Gaston, Harnett, and Mecklenburg counties. Cooperative campaigns, in which the counties furnished the working personnel, were also carried on in Anson, Johnston and Rutherford counties. A total of 29,435 citizens have been vaccinated against the disease, and this does not include Columbus County, in which the work was just beginning when this report was completed.

The educational work of the State Board of Health during this year consisted of a 48,000 monthly edition of the State Board of Health *Bulletin* and the distribution of approximately 350,000 pieces of public health literature.

The funds available during this fiscal year amounted to \$342,284.33, of which \$176,152.61 was state appropriation and the remainder from outside sources.

The appropriation for the State Laboratory of Hygiene for this year was \$25,000; in addition to this, the Laboratory collected in fees for special work, for antitoxin and in water taxes, a total of \$13,698.89, making a total of \$38,698.89 available for the work of the Laboratory. The above amount being insufficient, the Special Session of the Legislature authorized a loan of \$15,000 to enable the work of the Laboratory to be carried on, making a total of \$53,698.89 available for the work of the Laboratory during this year.

1921. The Legislature meeting early in January of this year was asked by the Board to amend the state law restricting the salary of the executive officer of the Board to \$3,000 annually, so as to make the salary \$5,000. Such an amendment was passed. A further request from the Board was that legislation be enacted removing the inspection tax of forty cents from privies coming under the supervision of the Board of Health. Such an amendment to the State-wide Privy Law was also enacted. A bill was introduced in this session of the General Assembly under the initiative of Hon. Emmet H. Bellamy requiring a physical examination of all applicants for marriage and making issuance of license contingent upon the physical qualifications of the applicant. The State Board of Health approved and supported Mr. Bellamy's bill, realizing, as did the author of the bill, that the proposed legislation was but a step in the right direction and was, therefore, rather loosely drawn and left many things to be desired. The bill finally passed in amended form as Chapter 129, Public Laws of 1921.

The Governor appointed Mr. Chas. E. Waddell, an engineer of Asheville, to succeed Col. J. L. Ludlow as the engineer member of the Board.

Perhaps the most important change inaugurated in state health administration during this year was the adoption of a cost basis for standardizing and measuring the efficiency of public health work in those counties in which the state participated financially. This new principle is fully described in the *State Board of Health Bulletin* for January, 1922, and a further discussion of cost basis for public health work is unnecessary here except, perhaps, to say that it is apparently at least one of the first attempts to introduce the cost system of industry into government.

The Bureau of Venereal Diseases, in charge of Dr. Millard Knowlton, established as a part of the war-time activities of the Board in cooperation with the Bureau of Venereal Diseases of the Federal Government, was combined with and made a part of the work of the Bureau of Epidemiology, under the general direction of Dr. J. S. Mitchener.

Funds available for the year included state appropriation, \$275,000; miscellaneous receipts, \$164,184.42; total, \$439,184.42.

1922. In order to bring the records of this department into harmony with those of other state departments, in accordance with the Act of the General Assembly of 1921, changing the fiscal year of the state so as to begin on July 1 each year, this report ends with June 30, 1922. It, therefore, covers a period of nineteen months, one full fiscal year from December 1, 1920, to November 30, 1921; seven months from December 1, 1921, to June 30, 1922. Effective February 1, the American Red Cross Society abrogated the agreement existing since 1919 by which it jointly financed, with the Board of Health, the Bureau of Public Health Nursing and Infant Hygiene. This bureau was reorganized April 1 as the Bureau of

Maternity and Infancy, for its maintenance the state receiving \$27,259.66 annually from the United States Government in accordance with the Sheppard-Towner Act for the promotion of the welfare of mothers and infants, Dr. K. P. B. Bonner, of Morehead City, was secured as the director of the reorganized bureau, with Miss Rose M. Ehrenfeld as supervisor of nursing and Mrs. T. W. Bickett in charge of educational work.

The funds available during this period, and their distribution were seven-twelfths of the amounts set out under the tabulation for 1921.

The appropriation for the State Laboratory of Hygiene for the nineteen months between December 1, 1920, and June 30, 1922, was \$87,083.33; in addition to this, the Laboratory collected in fees for special work, for antitoxin and in water taxes, a total of \$30,872.51, making a total of \$117,955.84 available for the work of the Laboratory.

1923. The General Assembly of 1923 enacted some important and far-reaching legislation affecting public health work in North Carolina. The most important legislation enacted this year was the act providing for an independent board of directors for the State Sanatorium for Tuberculosis, removing the direction of that institution from the authority of the State Board of Health. Facilities were also provided at the State Sanatorium for the confinement, care, and treatment of tuberculosis convicts. Other legislation included the act to provide for the sanitary manufacture of bedding, the latter act to be enforced by the State Board of Health. The Bureau of Epidemiology was again combined with the Bureau of Vital Statistics.

On March 1 Dr. G. M. Cooper was made Assistant Secretary of the State Board of Health, and Dr. J. S. Mitchener was assigned to the Bureau of Medical Inspection of Schools, after the consolidation of the Epidemiology work, which he had directed with the Bureau of Vital Statistics. Dr. K. E. Miller, of the United States Public Health Service, was recalled for duty elsewhere.

In order to experiment with the plan of District Health Work, an effort was made to place responsibility for all State Board of Health activities under the direction of district directors attached to the staff of the State Board of Health. This effort was continued throughout the year, but proved to be ineffective and unsatisfactory.

During the year Dr. F. R. Harris resigned from membership on the State Board of Health to become health officer of Vance County. The Board elected Dr. D. A. Stanton, of High Point, to fill the unexpired term of Dr. Harris.

In order to further carry on the important work of malaria control in a number of the counties of the coastal plain area of the state, which work was so effectively commenced in an educational capacity in 1920, the International Health Board was requested to participate in this work and to provide a director for

that service. The International Health Board agreed, accepted the invitation and assigned Dr. H. A. Taylor, of Alabama, to head this division. Pamlico County was selected as headquarters for Dr. Taylor. The cost of this work was borne by the State Board of Health and Pamlico County contributing 40 per cent. each and the International Board the remaining 20 per cent. The International Health Board, of course, paid the salary of Dr. Taylor.

In June Dr. J. S. Mitchener resigned as director of the Bureau of Medical Inspection of Schools and Dr. Roy C. Mitchell, who had been doing some special educational field work for the Board, temporarily succeeded Dr. Mitchener.

Early in 1923 Dr. W. S. Rankin, the State Health Officer, was invited by the Committee of Municipal Health Department Practice of the American Public Health Association to become field director for the committee in making a study of municipal health practices in the United States. This was for the purpose of working out a basis or set of principles through which city health departments could be given classification or grading, and also for the purpose of assisting such departments in their organization work. The request was brought before a special meeting of the executive committee of the Board, and it directed the Secretary to take advantage of the opportunity offered. The Board granted to the Secretary one year's leave of absence, but requested him at the same time to continue in touch as executive officer of the Board with the work of the Board.

On November 1 Dr. Rankin assumed his duties and established official headquarters in New York City for the work of the committee.

The general organization of the executive staff of the Board was continued with the Assistant Secretary, Dr. G. M. Cooper, as official head of the staff. Local health work in the eastern half of the state was directed by Dr. H. A. Taylor, and that in the western part of the state by Dr. E. F. Long, who had been assistant to Dr. K. E. Miller as director of county health work. To assist Dr. Taylor in the east, Dr. George Collins, formerly health officer of Mecklenburg County, was employed, and to assist Dr. Long in the western half of the state Dr. C. N. Sisk, formerly health officer of Forsyth County, was employed.

During the year a plan for the more adequate sanitary control of public milk supplies in the state was formulated. This work was undertaken under the direction of the Bureau of Engineering and Inspection, and Mr. Malcolm Lewis was employed to organize this work. Several changes in personnel took place this year. Dr. M. L. Isley, who had been employed in county health department work, and Dr. Roy C. Mitchell resigned. Miss Rose Ehrenfeld also resigned.

1924. During this year Dr. Rankin continued his work with the American Public Health Association until November 1. During this period the work of the Board was directed by Dr. G. M. Cooper, serving

as Acting Secretary. On November 1 Dr. Rankin returned, and during that month, under the direction of Dr. Maxey of the United States Public Health Service, a school for health officers was conducted under the auspices of the State Board of Health for one week in Raleigh. This meeting was well attended, and every modern method which might be utilized in the work of a modern public health department was discussed throughout the week.

Dr. M. L. Townsend was placed in charge of the Division of Health Education. Dr. K. P. B. Bonner resigned as director of the Bureau of Maternity and Infancy.

1925. Dr. Rankin resigned, effective June 1, to accept the position of director of the Hospital and Orphan Division of the Duke Foundation. At a meeting of the Board of Health on May 30 Dr. G. M. Cooper was unanimously made Acting Secretary for an indefinite period of time to succeed Dr. Rankin. During the year Dr. E. F. Long resigned as director of county health work and Dr. C. N. Sisk, who had been assistant to Dr. Long, was placed in charge of county health work, without an assistant.

1926. On June 21 Dr. Charles O'H. Laughinghouse, a member of the Board, was elected permanent Secretary and State Health Officer to fill the unexpired term of Dr. Rankin. Dr. Laughinghouse accepted and took office October 1. Dr. G. M. Cooper, who had for sixteen months administered the work of the Board as Acting State Health Officer, continued with the service and was assigned to the Bureau of Health Education succeeding Dr. M. L. Townsend, who resigned. On August 6 Dr. Richard H. Lewis died. Dr. Lewis had served as a member of the Board since 1885, and from 1892 to 1909 he served as Secretary of the Board. Since 1909 he had been a member of the executive committee. Dr. Lewis held his membership on the Board by appointment from the Governor. To fill the term of Dr. Lewis, expiring in 1931, Governor McLean appointed Dr. John B. Wright, of Raleigh. Among other reasons assigned for this appointment, the Governor stated that it had been the rule since the Board of Health was established to have at least one of the members of the Board a resident of Raleigh.

When Dr. Laughinghouse resigned, in order to accept the election to the position of State Health Officer by his fellow members on the Board, the remaining members of the Board elected Dr. W. S. Rankin, of Charlotte, former Secretary of the Board to succeed Dr. Laughinghouse.

1927. There were no changes in personnel or in staff organizations during the year 1927. The most important event occurring this year was the death of Dr. J. Howell Way on September 22. Dr. Way had been a member of the Board for many years and had been President of the Board for a long time. Governor McLean appointed Dr. C. C. Orr, of Asheville, to succeed Dr. Way. At the first meeting of the State Board of Health following the death of Dr. Way,



Dr. A. J. Crowell, of Charlotte, was made President of the Board. In April of this year Dr. W. S. Rankin resigned as a member of the Board, and Dr. L. E. McDaniel, of Jackson, was elected by the other members of the Board to succeed Dr. Rankin.

1928. Dr. J. C. Johnson, who had been director of the Oral Hygiene Division, resigned as director of the oral hygiene work of the Board, effective December 31.

During this year a corps of nurses employed in the Maternity and Infancy Division of the Board, one-half of whose expenses were paid by the Federal Government from Sheppard-Towner funds, held midwife classes in about thirty counties of the state. The nurses gave special instruction to midwives in groups, and the county authorities enacted midwife rules and regulations for the control of their practice.

The educational work of the Board was of a high order during this year. A thirty-two page *Bulletin* was issued monthly, and a moving picture machine with several films on modern health subjects was exhibited in many sections of the state.

1929. With aid secured from the International Health Board, the Life Extension Division was added to the activities of the Board this year. Dr. Frederick R. Taylor, of High Point, was made director of this division. Dr. Taylor carried this work before the medical profession in all sections of the state.

On January 1 Dr. Ernest A. Branch accepted the appointment as director of the Division of Oral Hygiene to succeed Dr. J. C. Johnson, resigned. Dr. Branch immediately set in motion reorganization plans for the oral hygiene work to include more lectures and more educational demonstration work. Dr. Branch made contacts with several of the colleges of the state and training schools for teachers.

Expenditures for the Board work this year reached the highest peak in the history of the Board, totaling about \$486,000. There were no significant changes, other than those mentioned above, in personnel during the year.

1930. This year marked many significant changes in the affairs of the State Board of Health. Early in the year Dr. C. N. Sisk, director of county health work, resigned. Dr. D. A. Dees succeeded Dr. Sisk as director of county health work. Soon after the resignation of Dr. Sisk, Dr. F. M. Register, director of the Bureau of Vital Statistics, resigned, and the work of that bureau was assigned to Dr. G. M. Cooper, in connection with his work as director of health education. On August 26, Dr. Chas. O'H. Laughinghouse, State Health Officer, died. Soon after his death, in a meeting of the Board, Dr. H. A. Taylor was made Acting State Health Officer. On September 24, following the death of Dr. Laughinghouse, the Board elected Dr. W. P. Jacocks State Health Officer to succeed Dr. Laughinghouse. On November 20 Dr. Cyrus Thompson, for

many years a member of the Board, died. On December 16 the Board met and unanimously elected Dr. James M. Parrott, of Kinston, as a member to succeed Dr. Thompson.

1931. At the beginning of this year, Doctor Jacocks having declined to accept the position of State Health Officer, to which he had been elected by the Board on September 24, 1930, a bill was introduced in the Legislature abolishing the State Board of Health as then constituted. This bill was passed and became law during the session of 1931. With the enactment of the new law the terms of the members of the old Board were automatically terminated. Under this new law governing the state health work, legislative machinery providing for the establishment of a new organization to carry on the public health work of the state was enacted. The new law differs in many respects from the old law under which the Board had operated for so long. However, the most important provision of the old law was retained; that is, the non-political character of the Board and the retention of the permanency of the policies of the Board, although shortening the terms of office and making it impossible for the Board to become a self-perpetuating machine.

The important provisions in the new law under which the Board of Health work is now operating are as follows: The Governor still retains the power to appoint five of the nine members of the Board, the maximum term of office being four years instead of six, as under the old law. The Medical Society of the State of North Carolina still retains the power to elect four of the nine members of the Board, the same conditions as to term of office to obtain here as in those appointed by the Governor. It was recommended to the Governor, although not written into the law, and Governor Gardner accepted the suggestion, that he appoint one member from the State Dental Society and that he appoint a man recommended by that society. This is equivalent to allowing the State Dental Society to name one of the members, but still leaves the balance of power in the hands of the Governor. This seems to be a very satisfactory arrangement.

Another important change is that the Board still elects the State Health Officer, but it can only become effective upon the approval of the Governor. The term of the State Health Officer, along with members of the Board of Health, was restricted to four years.

Following the adjournment of the Legislature, the Governor appointed the following named members: Drs. J. T. Burrus, High Point; H. Lee Large, Rocky Mount; J. N. Johnson, Goldsboro, the dental member; Professor H. G. Baity, of the University of North Carolina and Mr. J. A. Goode, a druggist in Asheville. The State Medical Society at its first meeting after the adjournment of the Legislature elected the following physicians to membership: Drs. James M. Parrott, Kinston; Carl V. Reynolds, Asheville; S. D. Craig, Winston-Salem; L. B. Evans, Windsor.

It will be noted that Dr. Parrott was the only member of the outgoing Board honored with election to membership on the new Board.

On May 28 the new Board met and organized. On that day it unanimously elected Dr. James M. Parrott State Health Officer. Dr. Parrott took the offer under consideration for a period of two weeks. On June 11 the Board met again. Dr. Parrott accepted the election and agreed to assume office on July 1. Dr. Parrott resigned his membership on the Board before being elected to the position of State Health Officer, and under the provisions of the new law the executive committee of the State Medical Society selected Dr. G. G. Dixon, of Ayden, to serve in Dr. Parrott's place until the 1932 meeting of the State Medical Society. It will be noted that this is an important variation from the provisions of the old law. Under the old law the other members of the Board held the authority to name a successor, whether a member resigned or died. Under the new law the Governor names his vacancies in his list and the executive committee of the State Medical Society is permitted to name a successor to serve only until the first meeting of the State Medical Society following.

In the meeting of June 11 the new Board found it necessary to eliminate some members of the staff and to make some consolidations, on account of reduced appropriations for the Board work. The services of Dr. D. A. Dees and Mr. R. B. Wilson were dispensed with, effective July 1. The Board reorganized the staff and made many consolidations. The new reorganization follows:

The Board reorganized the work into divisions, making many consolidations and increasing the duties of the directors of each division. Following are the divisions organized. Administrative Officer, Dr. James M. Parrott; Director Division of Laboratories, Dr. C. A. Shore; Director Division of Preventive Medicine, Dr. G. M. Cooper; Director Division of Oral Hygiene, Dr. Ernest A. Branch. The division of County Health Work and Epidemiology was temporarily assigned to Dr. H. A. Taylor, but on August 3, Dr. Taylor resigned and Dr. John H. Hamilton, health officer of New Hanover County, was appointed director of this division. The position of director of Division of Sanitary Engineering was filled on July 14 by electing Mr. Warren H. Booker, who had formerly headed that work, to succeed Mr. H. E. Miller.

The election of Dr. Parrott was received throughout medical and public health circles of the entire state with enthusiasm. Under his able direction the work of the Board during the last half of this year moved with a precision which was gratifying to all the friends of public health work in the state.

1932. The year 1932 was uneventful in public health work. The term of none of the members of the Board expired this year, but all members continued their service just as the Board was constituted at the close of 1931.

The International Health Board awarded a scholarship to Dr. J. C. Knox for a year's special Public Health Work at Harvard and to Dr. R. T. Stimpson for a year's special work in the School of Hygiene at Johns Hopkins.

Following the very favorable reception of Doctor Parrott's annual report at the conjoint session of the State Board of Health and the State Medical Society, which was presented at Winston-Salem in April, the work of the Board was carried on on all fronts with satisfactory results, although on account of reduced appropriations many activities carried on in previous years had to be curtailed or definitely eliminated.

The death rate in North Carolina for 1932 was 9.6 per 1,000 population. This is the lowest death rate ever before recorded in North Carolina. The trend in typhoid fever death rates has been consistently downward from 1914 to 1930. This year there were three more deaths than in 1931, there occurring a total of 158 deaths from typhoid fever. The increase in population, however, offset the slight increase in number, and the rate recorded was slightly lower than 1931. The cases and deaths from diphtheria this year were also the lowest of any previous year, although progress in the elimination of these diseases has not been so satisfactory as it should have been. Deaths from pellagra continue to show a marked decline.

This year is the third year of the so-called financial depression, and it is too early to record any opinion as to what effect unemployment and decreased income and rather widespread suffering may have on the health of the people of the state. It is not too much to say, however, that the effect will be felt more severely by the children than by any other class of the population.

The infant mortality this year was 66.4 per 1,000 live births. This is so far the best record the state has ever made. The maternal mortality remains high, and indications are that with decreased expenditures for maternal and infant hygiene the rates, particularly for infant deaths, will rise again, pushing the state back among those having an excessive infant death rate.

Expenditures for this year for all purposes by the Board were \$315,276, of which amount \$262,438 represented appropriations. This amount was just a little more than half of the total expenditures made by the Board of Health for the fiscal year ending June 30, 1930.

1933. The event of outstanding importance to the Board of Health this year was the death of Dr. C. A. Shore, which occurred on February 10. For twenty-five years Doctor Shore had been director of the State Laboratory of Hygiene. He had built the work of the laboratory during these years up to a point where its prestige and usefulness was equal to that of any other public health laboratory in America.

Doctor Shore served longer as a member of the executive staff than any other man who has ever been connected with the State Board of Health with the exception of Drs. R. H. Lewis and Geo. M. Cooper. He held the confidence and esteem of the medical profession as well as the general public to a marked degree. He was a man of extraordinary ability, and much of the success of the public health work in North Carolina may be attributed to his fine and wholesome service.

Suitable tribute has been paid to Doctor Shore and recorded in other publications of the Board and of the State Medical Society. One event in this connection, however, should be recorded here, and that is that by legislative action all buildings of the State Laboratory of Hygiene are hereinafter to be known as the Clarence A. Shore Laboratory, in memory of his distinctive service.

A few weeks after the death of Doctor Shore, Dr. John H. Hamilton, director of County Health Work, of Vital Statistics, and of Epidemiology, was made director of the laboratory work. Doctor Hamilton, on assuming his duties as director of the Laboratory, resigned the duties of director of County Health Work and of Epidemiology, but retained, however, with the assistance of Dr. R. T. Stimpson as statistician and field director, the Bureau of Vital Statistics. Dr. D. F. Milam, a consultant assigned to the State Board of Health by the International Health Board, was made acting director of the Bureau of Epidemiology in place of Doctor Hamilton. Doctor Milam had as his assistant Dr. J. C. Knox. Dr. M. V. Ziegler, consultant assigned to the Board by the United States Public Health Service, assumed the duties of acting director of County Health Work to succeed Doctor Hamilton. During this year Mr. W. D. Riley, assigned to the work as Venereal Disease Control Officer by the United States Public Health Service, organized his work and succeeded in making an important contribution to the work of the Venereal Disease Control in North Carolina.

The following changes in personnel of the State Board of Health took place during this year: Dr. W. T. Rainey, of Fayetteville, was elected by the State Medical Society for a four-year term to succeed Dr. L. B. Evans, of Windsor, whose term expired this year. Dr. S. D. Craig was reelected for a term of four more years. The Governor reappointed Dr. J. N. Johnson, dental member of the Board, for another term, which will expire in 1937. The Governor appointed Dr. Hubert B. Haywood, of Raleigh, for a four-year term, to take the place of Dr. J. T. Burrus, of High Point. The Governor also appointed Mr. James P. Stowe, a druggist of Charlotte, for a four-year term, expiring in 1937. Mr. Stowe succeeded Mr. J. A. Goode, a druggist of Asheville. Dr. Carl V. Reynolds succeeded Dr. Burrus as President of the Board. On July 1, Drs. Knox and Stimpson returned to the Board work and resumed their places after satisfactorily concluding their year's scholarship work at Harvard and Hopkins, respectively.

The year was not marked by any widespread outbreak of epidemic disease, and notwithstanding a continuation of the financial depression, the work of the State Board of Health held up fairly well. The appropriations being lower this year than before for many years, much of the personnel service had to be reduced. A material reduction in state aid to County Health Work caused considerable contraction of the activities of County Health Department Work, but for the most part the morale of State Board of Health employees as well as the county health employees has held up remarkably well.

The Legislature, meeting for an extended session following its opening in January, made drastic reductions in appropriations to all state health work and reduced the salaries of all state health employees. This was said to be necessary in order to balance the state budget and to maintain the state's credit.

The total expenditures for the Board of Health this year, that is, for the fiscal year ending June 30, were \$291,786. Of this amount \$225,274 was appropriated by the Legislature. It will be noted that this sum was less than half of that appropriated and spent for the fiscal year ending June 30, 1930.

1934. The event of greatest importance to the State Board of Health and to the health work throughout the state in this year was the death of Dr. James M. Parrott and the election of Dr. Carl V. Reynolds as his successor. Dr. Parrott assumed the duties of State Health Officer on July 1, 1931. He had thus served a little more than three years and four months at the time of his death. Dr. Parrott was the first State Health Officer to serve under the new, or reorganized, Board of Health. He was stricken with an attack of angina pectoris early in December, 1933. The last eleven months of his life, therefore, were ones of recurring illness and courageous fortitude in remaining at the helm of the Board of Health work. On the occasion of the first illness, with the consent of the members of the State Board of Health, he designated Dr. G. M. Cooper as Acting State Health Officer to be the responsible head of the work in such periods as he was physically unable to attend to the duties of the office. The following sketch, concerning Dr. Parrott and his work, written by the Editor, was published in the *Health Bulletin*.

"The death of Dr. James M. Parrott, State Health Officer of North Carolina, occurred on Wednesday evening, November 7, 1934. Doctor Parrott had been health officer of North Carolina for a little more than three years. He was so active mentally and so near and dear to his co-workers here at the office that to me, even yet, it seems impossible and unbelievable to think that he is dead. Nearly thirty years ago I 'took' the State Board examination for license to practice medicine. He was a member of that board. From then on I looked on him as one of the big men in the medical profession. He held every office within the

gift of his profession and loved it and served its interests with a passionate devotion.

"He took over the direction of the work of the State Board of Health in one of the darkest hours in the history of the Board. He brought to the affairs of the Board a new kind of leadership, a fresh outlook, a new viewpoint, and a breadth of vision which served notice on the world that the Board had a resourceful and able executive in charge. Although he came to the Board work without previous experience in an administrative capacity of this type, and knowing little or nothing of the practical workings of a modern public health organization, his chief contribution, which will be duly recorded in the history of this period, to the cause of public health advancement was his stand for the professionalization of public health work.

"Before he had been here sixty days, he realized that all department divisions as well as all county health offices should be manned by physicians technically trained and experienced in public health work. It became necessary for him to oppose the ambitions of some of his lifelong friends in the medical profession, which hurt him; but it may be said to his credit that he stood four-square for competently trained men as public health officials.

"On assuming office, he realized that he had some very unpleasant duties confronting him in reorganizing the work of the Board. He soon demonstrated that he had convictions and the courage to back them up. When he laid down his armour for the great adventure, he left an organization of his own building functioning at top speed. He proved to his fellow workers here that he was tolerant to everything but laziness and lying and inefficiency. Being a man of clean personal life, and governed in all his actions by a strict sense of honor, he naturally expected such qualities in his staff and other subordinates.

"For the past year he struggled against the malady which finally ended his life, and at the same time he felt keenly his official responsibility. He knew all during that last year that, in justice to himself and his family, he should resign and be relieved of the extra tax on his failing strength. On the other hand, he felt that his work was not quite done. He saw many essential features of public health work sacrificed to a program of questionable economy. He did not question the good intentions of the Governor, the Budget Bureau, nor the Legislature, but he felt that the time had come to put an end to the further needless sacrifice of human life for the lack of intelligent preventive efforts. He had a conviction that the incoming General Assembly would see eye to eye with him. He was ready to submit a program of far-reaching importance to the people of the state. It could not be. His big brain is forever inactive. His profound knowledge of the public health needs of the people is left for his successor to acquire for himself.

"No man could build for himself a better monument than Doctor Parrott did in the record of worth-while work well done. In his death the state loses an honest public servant, and I lose a warm and understanding friend whose confidence was more precious to me than the riches of Araby."

Following Dr. Parrott's death, the State Board of Health assembled in Raleigh on November 10, 1934, and unanimously elected Dr. Carl V. Reynolds, who at that time was serving as President of the Board, to the position of State Health Officer and Secretary and Treasurer of the State Board of Health. Dr. Reynolds immediately accepted and assumed his duties at once. The following Editorial appeared in the *Health Bulletin* in January, 1935, concerning Dr. Reynolds and his work. It is herewith reproduced in order that this chronological record may be complete.

"Dr. Carl Vernon Reynolds, of Asheville, on November 10, took the oath of office and immediately assumed his duties as Acting State Health Officer, succeeding Dr. James M. Parrott, who died November 7. Doctor Reynolds was unanimously elected to the position by his fellow members on the Board.

"Doctor Reynolds is a native of Asheville. His father was a successful Asheville physician who died when Doctor Reynolds was only three years old. Dr. Reynolds obtained his literary education in the private schools of Asheville and Wofford College, Spartanburg, South Carolina. He received his medical education at the college of the City of New York, graduating in medicine there in 1895. After his graduation he took a postgraduate course in London, England. Doctor Reynolds located in Asheville for the practice of medicine, specializing in pulmonary tuberculosis. His skill in combatting that disease has been widely recognized by the medical profession. An example of their confidence was his election as president of the North Carolina Medical Society, in which place he served with distinction in 1920.

"On beginning practice he at once became interested in health work. His first connection was with the city health department in 1896. Following that period, for more than twenty years he served as city health officer of Asheville, in which capacity he rendered his city and the whole state important and permanent service. Some of his contributions to public health may be cited as follows:

"He organized the first crusade against the common housefly ever undertaken anywhere.

"He assisted in drafting the first milk ordinance for Asheville.

"He secured progressive sanitary laws.

"He put through the compulsory vaccination law requisite to school attendance.

"He secured the adoption of a bread-wrapping ordinance and one requiring the tuberculin testing of cows.



"He saw typhoid fever drop from an average of two hundred and seventy cases a year in the city of Asheville to about five while he was city health officer, and saw smallpox practically eliminated.

"We enumerate these things so that the people of the state may know they have a well-trained health officer at the head of the State Health Department—one fully worthy of confidence and support."

The general routine work of the State Board of Health during this year was satisfactory and successful in every way. Dr. D. F. Milam, who had been loaned to the State Board of Health by the International Health Board and who had been acting as State Epidemiologist, was transferred to other fields and on the first of July Dr. J. C. Knox, who had been Assistant in the Division of Epidemiology, became State Epidemiologist.

Dr. M. V. Ziegler, of the United States Public Health Service, who had also been loaned by that organization as a consultant in the Division of County Health work and who had been Acting Director of that Division, was transferred back to Washington about the first of September. Dr. R. E. Fox, who had completed a postgraduate course in the Public Health School of Harvard University, was made director of the Division of County Health Work.

Dr. R. T. Stimpson, who had also successfully completed a postgraduate course in the School of Public Health of Johns Hopkins University, and who had been acting as Assistant in the Department of Vital Statistics, was made Director of that Division.

On November 10, at the time Dr. Reynolds was elected State Health Officer, Dr. G. M. Cooper was elected Assistant State Health Officer. Dr. Reynolds, of course, had to resign from his place on the Board in order to accept the office of State Health Officer. To succeed him as President, Dr. S. D. Craig of Winston-Salem was elected to that position. Dr. J. N. Johnson of Goldsboro, dental member of the Board of Health, was elected to the place of Vice President of the Board. The law provides that in case of a vacancy occurring on the State Board of Health among the membership elected by the State Medical Society, that the Executive Committee of the Medical Society of the State of North Carolina shall have the authority to appoint a successor to serve until the next ensuing meeting of the State Society. In this case, the vacancy coming so close to the annual meeting of the State Society and the Board of Health on the following May 1 and there being no regularly scheduled meeting of the Executive Committee of the State Medical Society, it was decided to defer the election of a successor to Dr. Reynolds to the meeting of the Society the following May 1.

1935. Dr. Carl V. Reynolds served as Acting State Health Officer, the Governor having deferred the approval of his election the previous November 10, 1934, but at the annual meeting of the State Board of Health, which was held in Pinehurst May 7, 1935, Dr. Reynolds was unanimously elected State Health officer. His election was for a full four-year term to begin on the first of July following. The Governor immediately approved the election of Dr. Reynolds to be State Health Officer for the full term as stated.

At the meeting of the conjoint session at Pinehurst on Wednesday, May 8, Dr. Grady G. Dixon was reelected to succeed himself to membership on the State Board of Health for a term of four years.

Dr. J. LaBruce Ward of Asheville was elected for the four-year term to succeed Dr. Carl V. Reynolds, resigned.

In this year an important development in public health work was the experimental course put on in the school year of 1934-1935 at the University of North Carolina, under the auspices of the Public Health Administration, of a course of instruction designed to prepare physicians for positions as health officers. The courses in this school met with such success, plans were perfected to enlarge the scope of this new school as a part of the medical School at the University. A fuller description of the inauguration of this school will be found under the records for 1936.

During this year following the enactment of the National Social Security law, plans were worked out for an expansion of the work of all the divisions of the State Board of Health, through financial aid coming through the Children's Bureau and the United States Public Health Service at Washington. It was a year which noted much activity in public health work all throughout the state, and the perfection of plans, state and local, for extending health department activities.

A Division of Industrial Hygiene was tentatively established in September of this year. The organization of this division resulted from an amendment to the Compensation Laws of the state by the 1935 General Assembly. This legislation made disablement or death by occupational disease interpretable as an injury by accident and thus compensable. For the execution of this legislation a sum of \$10,000 was appropriated by the Legislature. The Industrial Commission appreciating that a problem of preventive medicine was involved, engaged in a series of conferences with the State Board of Health and Officers of the United States Public Health Service. The discussions culminated in the \$10,000 appropriated for the administration of the occupational disease legislation being placed at the disposal of the State Health Officer. With this money, an Industrial Hygiene program was inaugurated as an activity of the State Board of Health. This arrangement was made with the understanding that the work would be subsidized by the United States Public Health

Service when Social Security funds should become available. To begin the work of this division and to prepare the program for enlargement to its full scope, Dr. H. F. Easom of the State Sanatorium for Tuberculosis Medical Staff was selected as the Director of the division. Mr. M. F. Trice, formerly in the Division of Sanitary Engineering of the State Board of Health, was made Engineer of this new division.

1936. What may be termed the outstanding event of importance for the first half of this calendar year covered in the period of this report may be said to be the definite establishment of the new public health department at the University of North Carolina and the selection of Dr. Milton J. Rosenau as its director. This new department, of course, is an integral part of the School of Medicine of the University of North Carolina. The March issue of the *Health Bulletin* published the following descriptive news item of the inauguration of this department:

"The most important development in public health circles in many years for this section of the South is the establishment at Chapel Hill of a department of public health in connection with the School of Medicine, and the selection of Dr. Milton J. Rosenau as its director. This development has been made possible by the coordination of the staffs of the faculties of the North Carolina State Board of Health and the schools of medicine and engineering of the University of North Carolina.

"The new department, while an integral part of the University School of Medicine with Dr. C. S. Mangum, Dean, will be under the personal direction of Dr. Rosenau. Dr. Rosenau is generally regarded as America's foremost authority on public health. His books on preventive medicine are used everywhere as standard textbooks in all schools of public health. Until his retirement recently from that faculty he had been head of the famous Harvard School of Public Health for many years.

"For a long time the officials of the State Board of Health have worked hard to secure the establishment of such a school. The necessity for it has been apparent to all responsible health workers. The chief credit for success in launching the enterprise should go to Dr. Charles S. Mangum, Dean of the University Medical School, and to Dr. Carl V. Reynolds, State Health Officer. Both of these officials have worked hard and cooperated with each other in overcoming all difficulties in the way of the establishment of the new department.

"In the opinion of Drs. Mangum and Reynolds the development was in part made possible by the success of the course put on in the school year of 1934 and 1935 at the University under the auspices of the School of Public Administration. The first course put on with the teaching aid of the Schools of Medicine and Engineering of the University and members of the staff of the State Board of Health comprised a course of instruction for physicians in public health administration and extended over a

period of twelve weeks. The work was so excellently done that they received recognition from the United States Public Health Service which assigned several of its applicants for postgraduate work to take the second course.

"We hope and believe that this enterprise under Dr. Rosenau's direction will expand into one of the most important departments of public health education in the entire country. The need for special training for physicians who want to enter public health work is great. Efficient public health departments, National, State and local in modern conditions of living are an absolute necessity. There are large numbers of young physicians who with proper postgraduate training could make excellent health officers.

"The success of the new department at Chapel Hill will go a long way toward establishing an efficient system of public health work on a sound basis throughout the entire southeastern section of the country."

On February 1 of this year, funds from the Social Security Act became available to the State Board of Health through the Public Health Service and the Children's Bureau at Washington. In addition to adding a division of field training of public health nursing in connection with the new department of public health at the State University, a department of Public Health Dentistry was also established in connection with the Public Health School at Chapel Hill. This is said to be the first school of like character in the country. The County Health Department was enabled through the Social Security subsidy from Washington to aid all the whole time county health departments in an expansion of their work. The Division of Preventive Medicine employed Mrs. J. Henry Highsmith to begin work on February 20 as an Assistant in the field of health education. The work of this division, of course, took on enlarged activities. Plans were immediately set in motion to establish special county nurses in counties having no whole time health organization as special demonstration service for such counties. Plans were also launched to establish Maternity and Infancy Centers in many sections of the state as Demonstration Centers, looking toward an eventual lowering of the infant and maternal death rates in this state.

A sum of \$17,500 of Social Security money was appropriated by the United States Public Health Service for the Division of Industrial Hygiene. Dr. M. T. Plyler was employed as an Assistant Medical Director in that division and Mr. C. R. Matheson as a Medical Technician. Both of these men had been employed on the staff of the North Carolina Tuberculosis Sanatorium. Up to the first of July more than 150 plants involving siliceous dust hazards had been surveyed. The entire asbestos industry in the state involving five plants had been studied, in cooperation with the United States Public Health Service, a granite cutting establishment investigation made, and a foundry study inaugurated.

There were 525 asbestos textile workers and 46 granite cutters examined during the investigatory work. In addition, preemployment examinations have been made of approximately 400 workers. All persons examined have X-ray films made of their chests. During this work nearly 300 atmospheric dust samples were analyzed. During the period, the physician and the engineer attended a four week's special course on Industrial Hygiene given by the Public Health Service in Washington. The division has installed a complete office equipment, as well as portable equipment necessary for successful execution of this important work. The new division is housed in the basement of the State Board of Health Building.

On April 1 of this year, the State Board of Health established a service for crippled children. This followed the approval in late March of the North Carolina Plan for Crippled Children prepared by the State Board of Health and submitted to the United States Children's Bureau. This plan was a prerequisite of the Children's Bureau toward participation by the state in the distribution of Social Security appropriations for this purpose. Dr. G. M. Cooper of the Division of Preventive Medicine was designated as Medical Director of this service, and Mr. J. T. Barnes was employed by the State Board as State Supervisor in charge of administrative duties of this service. An advisory committee representative of the Medical, Health, welfare, and lay interest of the state in the problem of the crippled child was formulated to advise in the execution of this program. Prior to June 30, public clinics were arranged in various centers of the State under the direction of the State Board of Health. Cooperation had been arranged with the North Carolina Orthopedic Hospital and was being carried out satisfactorily.

Under the provision of the Children's Bureau regulations, an advisory committee was secured by the Director of the Division of Preventive Medicine for the purpose of advising from time to time on the general program of maternal and child health service work. This committee held its first meeting on March 27 at the State Board of Health in Raleigh. Representatives from the following organizations were present: State Medical Society, State Dental Society, State Public Health Officers Association, State Nurses Association, State Federation of Women's Clubs, State Parent-Teacher Association, State Welfare Department, Division of Pediatrics and Obstetrics of the State Medical Society. On or before June 30, the enlarged program of all the divisions of the State Board of Health was well underway.

1937. There was no event of outstanding importance occurring in the year 1937. Few changes in the staff or the sub-staff of the State Board of Health have occurred. Following the expansion of service throughout the year 1936 with the aid of Social Security funds coming through the United States Children's Bureau and the United States Public Health Service at Washington, a tre-

mendous amount of work was done during the entire year 1937 in expanding the work of the health department throughout the State, an increased number of nurses were employed, additional county health departments were established and more intensive efforts were made along all lines than in any previous year. The new School of Public Health Administration at the University of North Carolina under the direction of Dr. Milton J. Rosenau, aided materially by Dr. Carl V. Reynolds, State Health Officer, and the faculty of the Medical School of the State University, made substantial and satisfactory progress. An increasing number of sanitary engineers, sanitary inspectors, and health officers from this State and other states in the southeastern regional territory were trained at Chapel Hill.

An Advisory Committee of leaders in different organizations in North Carolina, including such organizations as the State Medical and Dental Societies, Public Health Association, Parent-teacher organizations, Women's Clubs, and the State Nurses Association, together with some independent members of the medical profession in the field of pediatrics and obstetrics and orthopedic surgery, was organized and held its first satisfactory meeting during this year.

Dr. T. C. Worth joined the staff of the Division of Preventive Medicine on September 21, 1936, and served until April 15, 1937, in the capacity of assistant to Dr. Cooper. Dr. Worth aided materially in assisting in the organization of Maternity and Infancy Centers in some forty counties of the State and contributed a great deal toward strengthening the department work. Upon Dr. Worth's departure on April 15 to continue his postgraduate education in Boston, Dr. Roy Norton, who had been with the Division of County Health Work for about a year, and was formerly health officer of Rocky Mount, succeeded Dr. Worth. Miss Mabel Patton, a qualified nurse, joined the staff of the Division of Preventive Medicine as a consultant nurse representing the Children's Bureau. Dr. W. J. Hughes, a colored physician whose services for work in the health education field in the Department of County Health Work was made possible through contribution by the Rosenwald Fund and who joined the staff on January 1, 1936, was able to achieve substantial progress in his work with the colored population of the State. This was the first time a colored physician had been admitted to membership on the sub-staff of the State Board of Health, and the result of work in 1936 and 1937 have fully justified his employment. Dr. R. L. Robinson joined the sub-staff of the Division of Industrial Hygiene on April 1, 1937, to succeed Dr. M. T. Plyler of that Division. Mr. W. H. Richardson, an experienced newspaperman who at one time was Secretary to Governor Morrison for his four years in the Governor's office, joined the Administrative Staff in the department exclusively conducted by the State Health Officer. Mr. Richardson has been a valuable addition to the staff and he has

succeeded remarkably well in interpreting technical problems to the lay readers in hundred of articles in the daily and weekly press of the State. Dr. G. M. Leiby, who had been Assistant District Health Officer in the Haywood-Jackson-Swain District with headquarters at Bryson City, joined the sub-staff of the Department of Epidemiology in the fall of 1936 and after some field experience was sent to the Hopkins School of Public Health for a year's special studies in syphilology. Dr. F. S. Fellows of the United States Public Health Service was loaned to the State Board of Health as consultant in the Department of Epidemiology in the field of venereal disease control. Miss Margaret Thompson, who holds a master's degree in home economics and nutrition work from the University of Iowa, joined the sub-staff of the Division of Preventive Medicine in October, 1937. On March 15, 1937, Miss Frances R. Pratt, a specially trained nurse under the auspices of the State Maternal Health League, joined the sub-staff of the Division of Preventive Medicine. Miss Pratt's work was financed by an individual contribution from an outside agency. Her work has been to organize through the medical profession and the local health officers on a voluntary basis a system of contraceptive control work when based on medical needs. Her work has been very successful and it has been a welcome and needed addition to the staff work.

On December 16, 1937, following Legislative Provision in the 1937 session of the Legislature, \$160,000 in bonds were sold for the purpose of building a new plant for the State Laboratory on the grounds adjacent to the present State Board of Health building on Caswell Square, Raleigh. A PWA grant of about \$130,000 additional was received and work on the building was expected to be completed within the year 1938. A farm of 280 acres on the Raleigh-Cary paved highway was purchased and provision made for farm buildings to care for the animals used in the production of vaccines and serums.

On December 17, a conference of Public Health Officers was called at Raleigh for the purpose of discussing and making decisions concerning various field work, jointly affecting the State and local health departments. This conference was so successful that it was voted to make it an annual affair.

During the year a central general filing system was established and put into effect under the direct supervision of the State Health Officer and the Administrative Division of the Board of Health. This is proving to be a very satisfactory and progressive step.

Malaria was made a reportable disease and a malaria inspection and control unit was established in the Department of Epidemiology July 1, 1937. Effective also in 1937 was the new plan of the Division of Vital statistics with reference to the notification of birth registration certificates to parents. Instead of waiting for a parent to write to the department to inquire if the birth has been reported and to send 50c for certificate, the plan was

adopted of sending to each parent whose baby's birth was reported properly a small neat certificate of the baby's birth. This was through an arrangement with the Bureau of the Census of the United States Government. Franking privileges are allowed in this work. It simply informs parents that their babies' births have been properly recorded and the idea is through this method to reach many of those parents whose babies' birth have never been reported and get them to send in the reports.

There were no changes in the membership of the State Board of Health this year. All members whose term expired were re-elected by the State Medical Society or re-appointed by the Governor, for additional four-year terms.

The total expenditures for the State Board of Health during the fiscal year ending June 30, 1937, were \$881,484.01. Of this amount \$287,747.04 was appropriated by the Legislature, \$191,943.85 was by the United States Children's Bureau, \$312,210.42 by the United States Public Health Service, and finally \$89,582.70 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

1938. During 1938, the extension and consolidation of health work in all departments of the State Board of Health was further accomplished. This year two outstanding events may be recorded. First, the Zachary Smith Reynolds Foundation decided to donate its income from a fund of about seven million dollars to the State Board of Health to aid in a long time program of syphilis control. The initial donation from this fund by the officials of the foundation to Dr. Reynolds was a check of \$100,000. This philanthropy will bring to realization one of the finest dreams of Dr. Carl V. Reynolds, State Health Officer. It promises to enable the State Board of Health to accomplish in the near future some of the objectives that have sometimes seemed to be long years off. A long time before the Government began to realize its responsibility in the prevention of disease and the preservation of the health of its citizens as a means of bringing about better social and economic conditions and the promotion of human happiness, philanthropists such as Rockefeller led the way. This gift of the Reynolds Foundation, however, affords the practical means of enabling the State Board of Health to organize in collaboration with the various city and county health departments of the State an effective system through which the venereal diseases may be eventually controlled in this State.

The other event in the same connection was the passage by the United States Congress early in 1938 of a bill known as the LaFollette-Bulwinkle Bill, sponsored and carried through the lower House of the United States Congress by Representative A. L. Bulwinkle of Gastonia, who has long represented his district in the lower House of Congress. Through the provision of this bill the State was able to receive during the year about \$80,000 additional funds for work in syphilis control. The proceeds of these



funds enable the State Board of Health to attack the ravages of syphilis even in the prenatal stages by treating syphilitic mothers early enough in pregnancy to prevent the birth of hopelessly syphilitic babies. It is probably a fact that the benefaction of the Smith Reynolds Foundation is the largest single gift for this particular purpose that has ever been made by any public or private organization in this country. The cause is not only a worthy but a pressing one. It takes money to control and eliminate such diseases as yellow fever, typhoid and syphilis.

The School of Public Health Administration of the State University at Chapel Hill has made such material progress that it became necessary on the first of September this year to employ an additional full-time professor in that department. Dr. Roy Norton, who for the preceding fifteen months had been an assistant in the Division of Preventive Medicine where he has done excellent work, was persuaded to accept the professorship. The State Board of Health reluctantly agreed to Dr. Norton's transfer in view of the fact that the School of Public Health Administration is of such far-reaching importance that it should have the services of the very best available talent in the medical profession of North Carolina. Dr. Norton is admirably equipped for this important work. There are now five full-time professors in this division of the University.

Under the persistent work of Dr. Reynolds a stationary exhibit has been erected in the large halls of the central building of the State Board of Health, at Raleigh, an exhibit which is an education in itself. It demonstrates the work of all the departments. Some of the State's foremost artists were called into the work and the officials of the National Youth Administration provided a great deal of the actual work at little cost to the State Board of Health. It would pay any citizen of North Carolina who is interested in the State's progress to visit this exhibit sometime during the year.

With the exception of the loss of Dr. Norton, there have been few staff changes of importance. Dr. R. L. Robinson who came with the Industrial Hygiene Division as a field worker in April, resigned and returned to his home to engage in private practice on the first of August. Mr. C. D. King, Jr., an Industrial Hygiene man, came with the Board in the Industrial Hygiene Division on June 15 as an assistant to Mr. M. F. Trice. Dr. G. M. Leiby returned at the completion of his course in Johns Hopkins University and assumed his duties as field director of the syphilis control program. Dr. Fellows still remains with the Board and continues to render valuable assistance.

The officials and employees of the Department of Preventive Medicine were saddened this year on account of the death of two veteran nurses. Miss Katharine Livingston died on May 26 and Mrs. Margaret Sloan died on July 12. Both of these nurses had rendered valuable service in this Division for many years.

There were no expiration of terms of service of the membership of the State Board of Health this year, therefore no changes in personnel occurred.

In March, 1938, the Board received a report from a committee previously appointed to study pneumonia. The committee headed by Dr. H. B. Haywood of Raleigh as chairman, Dr. W. T. Rainey and G. G. Dixon from the Board, with Doctors Fred Hanes, C. T. Smith as consultants, and Dr. C. V. Reynolds, ex-officio, made a full report. Arrangements were made through Dr. Hanes of the Duke Medical faculty for a special course to train local technicians which was largely attended.

An important piece of field work which met with wide-spread appreciation throughout the State this year was a series of 34 health institutes for teachers and principals of schools in as many places representing the State. Eight thousand teachers and principals attended these Institutes which were of a practical character. The Institutes were conducted under the joint auspices of the State Board of Health, State Department of Public Instruction and the Extension Service of the North Carolina State College. The officials who executed this piece of work were Dr. Roy Norton and Mrs. H. P. Guffy, nurse, of the State Board of Health, Miss Mary Thomas, nutrition specialist of the State College Extension Service, Mr. H. A. Perry and Mr. Charles E. Spencer of the State Department of Public Instruction. This work was under the general supervision of Doctors Reynolds and Cooper of the State Board of Health, and it was carried out under the health education division of the Board, and Dr. J. Henry Highsmith of the State Department of Public Instruction.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1938, were \$1,041,895.98. Of this amount \$353,953.55 was appropriated by the Legislature, \$226,297.57 by the United States Children's Bureau, \$337,914.39 by the United States Public Health Service, and \$123,730.47 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

Dr. Roy Norton, who for nearly two years had been assistant director in the Division of Preventive Medicine, resigned to accept the position of Professor of Public Health Administration in the School of Public Health in the University of North Carolina. Dr. Norton's resignation was effective September 1. A successor to Dr. Norton was not appointed during the remainder of the year.

Beginning with July 1 of this year, the following counties set up whole time health department organizations: Alamance, Alleghany, Ashe, Davie, Polk, and Union. On September 1, Catawba, and September 16, Cleveland. On November 1, Currituck became a member of the district health department with Dare and other counties.

1939. In the Division of Sanitary Engineering, John D. Faulkner returned to the department to resume his work after taking a year of public health engineering training at the University of Michigan.

Mr. James P. Stowe of Charlotte, for many years a member of the State Board of Health, died on February 12. The Governor later appointed Mr. C. C. Fordham, Jr., a Greensboro druggist who promptly qualified as a member of the Board. During the year there were no other changes in the personnel of the Board. All members whose term expired were either reelected by the State Medical Society or reappointed by the Governor.

On August 7, Dr. John S. Anderson was appointed as a member of the staff as consultant in public health administration in the Division of County Health Work. Dr. Anderson had previously served as county health officer in Craven and Cabarrus counties.

On December 31, Miss Josephine Daniel resigned as consultant in public health nursing in the Division of County Health Work and accepted an appointment as director of public health nursing with the Oklahoma State Department of Health.

On December 15, Dr. George M. Leiby, venereal disease consultant, resigned his position with the Division of Epidemiology to accept the position of director of venereal disease control in the City of Washington, D. C.

On June 13, Dr. H. F. Easom resigned as director of the Division of Industrial Hygiene to return to the North Carolina Sanatorium as clinic physician. He was succeeded effective October 15, by Dr. T. F. Vestal, a native of Randolph County, formerly a member of the Sanatorium clinical staff.

During the year, construction work was started on the new central Laboratory on Caswell Square adjoining the administrative building of the State Board of Health. Also, Construction work was begun on the buildings on the State Laboratory farm between Raleigh and Cary.

In the Division of Preventive Medicine, Mrs. J. Henry Highsmith resigned her position as health educator, effective October 1. Mrs. Highsmith's resignation was very reluctantly accepted. Off and on Mrs. Highsmith had been connected with the State Board of Health for many years. She has rendered invaluable service in the health education work of the Board.

In the early months of the calendar year of 1939, plans were matured after two or three years' efforts, attended by frequent conferences of all concerned, by the State Health Officer and the State Superintendent of Public Instruction, for the establishment of a service through which the facilities of the State Department of Education and the State Board of Health for the execution of a unified health service in the public schools of the State might be further integrated. Inauguration of this plan was made possible by a supplementary grant of \$50,000 by the Rockefeller Foundation and the General Education Board to be spent over a five-year

period, commencing July 1, 1939. The official designation of this organization is the North Carolina School Health Coordinating Service. The organization as a whole consists of an Advisory Committee and a full-time operating staff. The Advisory Committee consists of five members: namely, Dr. J. Henry Highsmith, Dr. G. M. Cooper, Dr. C. F. Strosnider, Dr. R. J. Slay, and Dr. Oliver K. Cornwell. The operating staff consists of the following seven members: Dr. Walter Wilkins, Coordinator; Miss French Boyd, nutritionist; Mr. Charles E. Spencer, physical education; Miss Olive Brown, physical education; Miss MacVeigh Hutchinson, nurse; Dr. Walter Hughes, Negro physician; Mrs. Irma N. Henry, Negro health educator. In addition to these regular staff members several nurses from the Division of Preventive Medicine have been assigned to work with the organization for varying periods of time.

Dr. John F. Kendrick was lent to the State by the Rockefeller Foundation to serve temporarily as administrative adviser to this school health coordinating unit. Preliminary plans involving the selection of trained personnel and numerous other organization preparations were undertaken during the months of July and August, 1939, and initial field operations commenced in Stanly County in September. In addition to Stanly, cooperative work was undertaken in Person, Orange, Chatham, and Wayne counties during the year.

This was the first full fiscal year in which the sum of \$100,000 donated by the Zachary Smith Reynolds Foundation to aid the Board of Health in its syphilis control work was available. This initial donation of \$100,000 in cash to the State Health Officer to be used without strings attached, represents one of the largest gifts ever received by the Board of Health. It has enabled the State Board of Health to put into effect many necessary requirements in the State-wide work of control of the spread of syphilis. This money has been used for the specific purpose for which it was allotted. It has been used to employ additional men and women who are experts in their field and for the training of other nurses and physicians to become experts in the work necessary to deal with this enormous problem. This trust fund has enabled the Board to extend its activities in almost every direction and to keep up the official work in such a manner as to make sure a long time successful program which will be necessary to reduce the prevalence of syphilis in this State to a minimum.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1939, were \$1,215,056.80. Of this amount \$364,506.25 was appropriated by the Legislature, \$232,993.80 by the United States Children's Bureau, \$311,859.00 general and \$51,829.11 venereal disease by the United States Public Health Service, \$130,290.49 by the Zachary Smith Reynolds Foundation, and \$123,578.15 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

In this year no changes in the personnel of the State Board of Health occurred. Every member continues to serve to the full extent of his ability, giving unstintedly of his time and efforts to the constructive work of the State Board of Health.

1940. The most important item in the field of public health in this State in 1940 was the completion and dedication of the central building known as the Clarence A. Shore Laboratory of Hygiene. As stated before in this chronology, this new plant costing about \$311,000 was made possible by the selling of revenue bonds and the allocation of a PWA grant and in the acquisition of funds from various sources. The total outlay of \$311,000 represents the cost of the central plant on Caswell Square, completed and equipped, and the cost of the buildings on the Laboratory farm located six miles west of Raleigh. The Shore Memorial Building was dedicated with appropriate ceremonies on February 21, 1940. There were addresses by Governor Clyde R. Hoey, Dr. S. D. Craig, President of the State Board of Health, Dr. Carl V. Reynolds, State Health Officer, Mr. J. W. Kellogg, assistant director of the State Laboratory of Hygiene, Dr. George M. Cooper, Assistant State Health Officer, and Dr. John A. Ferrell, Associate Director of the International Health Division of the Rockefeller Foundation. Dr. John H. Hamilton, Director of the Laboratory, presided over the exercises. Greetings from neighboring and friendly organizations and institutions were brought by Dr. M. J. Rosenau, Division of Public Health of the University of North Carolina, Dr. W. C. Davison, Dean of the Medical School of Duke University, Dr. W. deB. MacNider, Dean of the Medical School of the University of North Carolina, Dr. E. S. King, Professor of Preventive Medicine of Wake Forest College, Dr. Hubert B. Haywood, President-elect of the Medical Society of North Carolina, Mr. E. C. Derby, Resident Engineering Inspector of the Public Works Administration, Dr. M. V. Zeigler, Senior Surgeon of the United States Public Health Service, Washington, and Dr. John M. Saunders, Regional Medical Consultant of the Children's Bureau, Washington. The entire issue of the April 1940 number of the *Health Bulletin* was devoted to the description of the dedication of the Shore Memorial Building. The issue was increased from the normal sixteen pages to a thirty-two page volume.

The central Laboratory building consists of four stories and is modern in every detail. The State Laboratory of Hygiene farm consists of approximately 280 acres of which 100 acres is under cultivation, the balance in woodland. The farm has a frontage of fifteen hundred and fifty feet on the great United States national highway number one. Both the Seaboard and Southern railways also front it. The buildings on the farm consist of the farm laboratory building, horses and sheep barns and buildings for the production of smallpox vaccine and other biologic products, as well as the buildings for the housing of small animals needed in this work.

On April 1, John D. Faulkner was transferred from the Division of Sanitary Engineering to the Division of Epidemiology to have charge of rodent control work.

John Andrews who had effectively headed the milk sanitation program in the Division of Sanitary Engineering resigned to accept an important position with the United States Health Service in Washington. R. F. Hill, Jr., finished his year of specialized training in sanitary and public health engineering at the University of North Carolina and returned to his duties with the Sanitary Engineering Division.

Effective work has been carried on with the aid of the WPA and United States Public Health Service in the malaria control drainage and community sanitation. Milk sanitation was advanced with a marked increase in the number of pasteurization plants. With the assistance of the aforementioned organizations and the PWA, the installation of new public water systems was brought up to a total of 52 installed during a four-year period ending June 30, 1940. Improvements, additions and extensions were made to a great many of the water and sewage systems of the state.

In the Division of Vital Statistics, there was closer cooperation with the local health departments in an effort to be of mutual assistance in registration. Social Security benefits requiring proof of number and age dependents and necessitating the presentation of the birth and death certificates has increased the number of verifications and copies of the certificates issued by the division. There were no material changes in the division during the first half of 1940.

On March 1, 1940, Miss Amy L. Fisher succeeded to the vacancy left by Miss Daniel as a consultant nurse in the Division of County Health Work. Miss Fisher had been supervising nurse in the Durham Health Department. Gates County joined the district to be composed of Hertford and Gates, the work to become effective July 1, 1940.

In the Division of Industrial Hygiene, there was issued a profusely illustrated one hundred page printed report presenting the results of a study of effects of exposure to dust in the mining and milling of pyrophyllite, the field work for which was done during the previous biennium. One of the outstanding achievements of this division was the design of seven industrial exhaust ventilation systems for the control of dust. Three of these had already been completed by June 30 and the installation of the others was already underway.

With the closure of the public schools for the summer holidays, preparations were made for health courses to be given thirty white and thirty colored teachers at the University of North Carolina and the North Carolina College for Negroes at Chapel Hill and Durham, respectively. These courses covered a six weeks period ending approximately July 20, 1940, and were made possible by

a grant of \$4,700 by the General Education Board. While it would be premature to attempt an appraisal of what was accomplished by this organization during its first year of existence, it may be stated that educational and health personnel alike cooperated generously, that certain procedures were found to be satisfactory while practical considerations necessitated the modification of others, and that progress was made toward the maturation of a generally accepted school health program.

On January 1, 1940, Dr. Ralph J. Sykes assumed the duties of venereal disease consultant in the Department of Epidemiology. Dr. Sykes had previously served for several years as county health officer first in Surry and later in Halifax. Dr. Frank S. Fellows, Surgeon with the United States Public Health Service who has been assigned to North Carolina for several years, continued to render valuable service in the capacity of venereal disease consultant.

The main accomplishment in the Division of Epidemiology was the great expansion of venereal disease control program. This was largely as a result of financial aid from the Zachary Smith Reynolds Foundation and the United States Public Health Service. In June, 1936, there were 120 clinics in operation. They treated 13,304 patients. In June, 1940, as a result of the aforementioned financial aid, the number of clinics have been increased to 255 in which 27,814 patients received treatment in a single month. The system of mechanical tabulation set up in a central tabulating unit under the direction of this division reached its full stride in the early months of 1940. A complete progress record is kept on every patient receiving treatment. The central tabulating unit renders valuable assistance to other divisions of the State Board of Health.

The Manual of Minimum Standards for conducting venereal disease clinics prepared by Drs. Fellows and Leiby still continues to be very helpful to physicians and nurses and others concerned with the conduct of venereal disease clinics. Financial aid was given through this department to all organized counties in the State. Fifty-one clinics were supplied with combination darkfield and general purpose microscopes and sixteen of the largest clinics were given fluoroscopes.

On January 1, Dr. Emmett S. Lupton was employed as assistant director in the Division of Preventive Medicine. Dr. Lupton had just completed his internship in pediatrics at the Duke Hospital. In the Division of Preventive Medicine, organized maternal and child health clinics were being operated in 55 counties. An increasing number of infants and expectant mothers among the poor classes were in attendance on these monthly clinics. A total of approximately 250 physicians were cooperating on a part-time basis at the close of the fiscal year, June 30.

The circulation of the *Health Bulletin* increased from about 52,000 to 60,000 monthly copies during the year.

In the Division of Oral Hygiene, there were no material changes except some expansion and expenditures of additional funds in the work of that division, necessitating the employment of an additional number of dentists.

At the beginning of the calendar year 1940, the question of adoption by the State Board of Health of a so-called merit system as required by some sections of the Federal Government at Washington loomed as an important item for consideration during the year. Early in January it was required by the Children's Bureau that standards to form the basis of a merit system should be submitted before the allocation of Children's Bureau funds for the winter quarter would be forthcoming. By the middle of January, therefore, Doctors G. M. Cooper and Emmett S. Lupton, working in consultation with Dr. Carl V. Reynolds, State Health Officer, worked out and submitted a seventeen-page typewritten document setting up standards acceptable to the State Board of Health. These standards with a few minor modifications were immediately accepted by the Children's Bureau. Later in the winter the Regional Medical Consultant of the United States Children's Bureau spent several days in Raleigh discussing with Dr. Reynolds and the representatives of the Children's Bureau in the State Board of Health plans for further development of the merit system, the next requirement being setting up of a merit system council with a supervisor and submission of classification plans for all State Board of Health workers. At this time the State Health Officer appointed the Director of the Division of County Health Work to be the responsible official to work out further plans. At a meeting of the State Board of Health on November 29, 1940, that body considered a new draft of what it termed "A Rule for a Merit System of Personnel Administration in North Carolina." Much discussion on the subject was indulged in by various members of the Board at this meeting. A suggestion of Dr. H. G. Baity, a member of the Board, at this time deserves particular emphasis. Dr. Baity made the suggestion that a general statement be placed somewhere in the compensation plan to the effect that the "duties outlined for each position classified were not to be considered as comprising all the duties that might be required of the position and that such other duties as might be required by the State Health Officer or the Division Director would be included."

Later in the year 1940, the war clouds over the world were gathering with such an ominous outlook that the United States Army, Navy, and Public Health authorities were busy laying the groundwork for a mighty army and navy to defend the country. One of the first consideration by the United States Public Health Service and the North Carolina State Board of Health in the fall of this year was an effort to detect the presence of syphilis in as large a section of the population as possible, especially those liable for military service. On October 16, 1940, which was registration day under the Selective Service Draft, the North Carolina



State Board of Health utilizing the services available in its 265 venereal disease clinics then established in the State offered to take blood samples from all registrants on a voluntary basis. Consequently, 132,671 blood specimens were taken and examined. This accomplishment was one of the most widespread efforts ever made in the State up to that time to locate by serological examination the presence and distribution of syphilis in North Carolina.

The Federal Government proposed to set up what they call a "Firing Area" in Pender and Onslow counties. It became necessary for the State Board of Health to insist on the organization first of a whole time health department in each of these two counties, neither one having ever had such department before. This was arranged on a joint financial basis between the counties and the State and Federal Government, and a district health department was set up.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1940, were \$1,380,174.90. Of this amount \$370,057.67 was appropriated by the Legislature, \$162,-813.81 by the Zachary Smith Reynolds Foundation for syphilis control work, \$229,872.28 by the United States Children's Bureau, \$318,148.38 general and \$175,557.72 venereal disease by the United States Public Health Service, and \$123,465.04 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

1941. The imminence of war all through the early part of that year overshadowed all other questions. The establishment of Camp Davis in Pender and Onslow counties, the Marine Base there and later in Craven County and the expansion of the facilities of Fort Bragg in Cumberland County, together with the enormous ship-building activities underway at Wilmington gave a wartime color to most all health work in the State during 1941.

The Legislature reduced somewhat its appropriation to the State Board of Health for public health work but this was offset by increased appropriation by the United States Public Health Service and the Children's Bureau at Washington. The Legislature also near the close of the session enacted a State Merit System Law to apply conjointly with the Federal requirements to those departments participating in the Federal organization.

At the several meetings of the Board this year the question of better and more widespread utilization of the Laboratory facilities were discussed and provision was authorized for further distribution of various biologicals. The Legislature had been asked for the sum of \$7,000 to provide for free diphtheria toxoid to be dispensed through the Laboratory for the use of all the physicians in the State just as typhoid vaccine and smallpox vaccine have been distributed for many years. The Legislature refused the appropriation and therefore, the only free toxoid that has been provided has been from the Maternal and Child Health Service of

the Division of Preventive Medicine from funds allocated by the U. S. Children's Bureau. Five thousand dollars was spent for this purpose.

At practically every meeting of the Board this year there was much discussion on the question of the Merit System. In October of this year the first Merit System examinations were held for certain types of classified service. This included stenographic and clerical positions. Some confusion prevailed throughout the year as to how far the requirements should be extended to include local employees of the various county and city boards participating in State and Federal funds.

Some changes were made in milk distribution regulations and the regulations governing the control of venereal diseases.

The following motion was adopted by the State Board of Health at a meeting in Raleigh on September 12, 1941: "That the Board endorse the policy of its Secretary, Dr. Carl V. Reynolds, in his efforts to suppress venereal diseases and prostitution not only around the military areas in North Carolina but also among its civilian population. V. D. Control in North Carolina is a public health problem and it is a fixed policy of the Board to give all of its efforts to the improvement of this situation. We feel that progress is being made and we assure Dr. Reynolds of our full cooperation in the continuance of this program."

On July 1, 1941, Mr. D. S. Abell who had been an assistant engineer in the Sanitary Engineering Department, resigned to become chief sanitary engineer of the Alabama State Board of Health. There were few other changes in personnel during the year except the resignation of Dr. Emmett S. Lupton as Assistant Director of the Division of Preventive Medicine. Dr. Lupton resigned after twenty-one months' faithful service to the Board for the purpose of engaging in private practice at Graham, North Carolina. Dr. Lupton was a valuable worker and contributed very much toward the success of the work in his division during his short term of office.

The Legislature also adopted during the year two laws regarding the registration of delayed birth certificates and a third law legitimatizing births to illegitimate babies born out of wedlock, provided the parents were subsequently married. The Vital Statistics Department all through this year was overwhelmed with requests for birth certificates on account of the widespread employment demands and military service, all of which require birth certification in order to establish citizenship.

An important expansion in the work of the State Board of Health was the erection of an Oral Hygiene Building on Caswell Square, adjacent to the administration building of the State Board of Health. The new building was designated as the Oral Hygiene Building and is entirely devoted to the work of that division. Ground was broken for this building on January 1, 1941, and on the last Thursday in November the division moved into its new home. WPA assisted in the erection of this building.

Miss Carolyn Mercer, educational consultant on the staff of the Oral Hygiene Division prepared for distribution in the schools a handbook for the use of elementary teachers of our State. This handbook is entitled "Teaching Mouth Health in North Carolina." It has been well received, and as a recognition of this contribution, the North Carolina Dental Society at its meeting this year conferred the honor of making her an honorary member of the North Carolina Dental Society, the first woman layman to receive such an honor in the State Society.

In the Division of Industrial Hygiene, the year 1941 witnessed the completion of an examination of some two thousand men employed to drive nine miles of tunnel in connection with the construction of two hydro-electric power plants in Western North Carolina.

A profound influence on all public health activity in North Carolina at the close of 1941 was the treacherous attack by Japan on the United States by a stab in the back without declaration of war at Pearl Harbor on December 7. This yellow act of treachery naturally has had a profound influence on all public health activities in the State from the first moment that the people received information of this treachery.

At the annual conjoint session of the State Board of Health and the North Carolina Medical Society held in Pinehurst, the terms of office of Doctors S. D. Craig and W. T. Rainey having expired, both were unanimously reelected for an additional term of four years.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1941, were \$1,596,038.31. Of this amount \$390,916.50 was appropriated by the Legislature, \$19,000 of which was a special appropriation to the Laboratory, \$173,398.34 by the Zachary Smith Reynolds Foundation for syphilis control work, \$387,912.36 general and \$200,749.20 V. D. by the United States Public Health Service, \$185,356.56 Maternal and Child Health and \$111,509.78 Crippled Children by the United States Children's Bureau, and \$146,195.27 miscellaneous items for Laboratory fees, etc.

1942. Early this year arrangements were made through a meeting called by the Governor, of the county school superintendents and other interested persons to have a physical examination made of all the high school students particularly in the last two grades of the high schools. After several committee meetings the officials of the State Medical Society, the State Dental Society, the State Department of Public Instruction, the school and health officials of the county and with the representatives of the State Board of Health, this plan was carried out.

Dr. D. F. Milam, who had been carrying on with his assistants some interesting surveys in the community around Bynum in Chatham County, completed that service and early this year

moved on to Wayne County for more intensive activities in the field of nutrition there. Dr. Milam, who is a loan to the State Board of Health by the Rockefeller Foundation, has a personnel of about five people and is conducting a splendid program in nutrition. His office is located at Duke University, his home is in Chapel Hill, and he is therefore in close contact with both institutions.

In this connection, one of the most significant moves made in the State Laboratory of Hygiene has been the setting up of a nutrition department under the direction of Dr. Bailey Webb. The work in nutrition has received tremendous impetus on account of the food situation throughout the world as a result of the global war now enveloping the earth.

Early in January this year, Dr. John F. Kendrick who was a loan to the State Board of Health also from the Rockefeller Foundation retired from his connection heretofore with the School Health Coordinating Unit and Dr. Walter Wilkins, the Coordinator, assumed entire responsibility for the School Health Coordinating program. This was consummated at a meeting of the Advisory Committee of that service held in the office of the State Superintendent of Public Instruction on January 21, 1942. Dr. Kendrick was allowed to continue his service in North Carolina as a consultant in the State Board of Health in order to complete the nutritional organization throughout the State. Dr. Reynolds was appointed Chairman of the State Nutrition Council and Dr. Kendrick is his official assistant. Dr. Kendrick's work is largely in the promotion of organization of this work throughout the State on a county basis.

On January 1, 1942, Dr. G. M. Cooper was retired from the editorship of the *State Health Bulletin* and Dr. John H. Hamilton assumed the duties of acting editor. Dr. Cooper completed his service of 19 years' editorship of this publication and at his insistent request his resignation for this service was accepted. Very complimentary editorials appeared in the *Southern Medicine and Surgery* and in the *North Carolina Medical Journal* concerning his work over the years as director of health education for the State Board of Health and his work as editor of the *Health Bulletin*.

At a meeting of the State Health Coordinating Service in Superintendent Erwin's office on May 8 of this year, the resignation of Dr. Walter Wilkins as Coordinator in the service was accepted to become effective June 1. A committee composed of Dr. G. M. Cooper, Chairman, Mr. Charles E. Spencer, and Dr. Oliver K. Cornwell were appointed to take temporary charge of the work of the division and to have authority for the conduct of the summer health conferences to be held in four of the State's institutions. This committee was able to set up all the machinery for each one of the conferences and to conclude a most satisfactory summer's health course in the Woman's College of the University of North Carolina at Greensboro, Bennett College, a Negro

institution at the same place, North Carolina College for Negroes at Durham, and the University of North Carolina at Chapel Hill. All of these conferences comprising a six weeks' course in each place were concluded with highly satisfactory results under the direction of the committee and with Mr. Spencer being in charge of the detailed execution of the plans, assisted in the Negro institutions by Dr. Walter J. Hughes, a colored physician on the staff of the State Board of Health.

In May of this year, the maternity and infancy clinics set up under the Division of Preventive Medicine reached a total of 308 established in 74 counties of the State. Some two hundred private physicians were participating at intervals in the program of examination for indigent women and well babies received in these clinics. Before July 1, however, the department was feeling seriously the inroads made by so many cooperating physicians both in the division of Preventive Medicine and in that of Epidemiology, who were assuming duties in the military forces of the country. The postgraduate course in Duke Medical School conducted by the Division of Preventive Medicine had to be discontinued by mid-summer on account of the shortage of physicians in private practice due to such depletion of the service, as mentioned before.

In the Division of Industrial Hygiene, the year 1942 was marked by the receipt of a substantial amount of lease lend equipment from the U. S. Public Health Service. A full-time well qualified chemist was also provided on the same basis, and from the same source.

Up to July 1 at the close of the period covered by this chronology, county health work had been extended to include 84 counties, Pasquotank County being the last to come into the service.

On May 31, Dr. Ralph J. Sykes who had been an assistant in the department of Epidemiology was commissioned a reserve officer in the Army with the rank of Captain, and resigned from the State Board of Health. His place had not been filled up to July 1.

On May 1, Dr. Merl J. Carson of Wilmington, a qualified pediatrician, joined the service of the Division of Preventive Medicine as a consultant pediatrician. On June 1, Dr. Robert B. Lawson completed his assignment of two years with the State Board of Health in the conduct of the postgraduate courses at Duke and as consultant in pediatrics to assume his duties by prearrangement as associate professor of pediatrics in the Bowman Gray Medical School of Wake Forest College at Winston-Salem. Dr. George K. Anderson of Rochester, New York, a qualified pediatrician, was secured to take the place of Dr. Lawson.

On June 9, at the annual commencement of the University of North Carolina, the honorary degree of Doctor of Laws was conferred upon Dr. George M. Cooper, Director of the Division of

Preventive Medicine, who had completed at that time twenty-seven years' consecutive service as a member of the executive staff of the State Board of Health. The first such honor conferred upon a State health official was a similar degree conferred by the University upon Dr. Thomas F. Wood in 1888, four years before Dr. Wood's death and after he had served for several years as the first State Health Officer. The second was a similar degree conferred upon Dr. Richard H. Lewis by the University in 1912, three years after he had terminated his seventeen years' service as State Health Officer. A third degree of Doctor of Science was conferred by the University upon Dr. Clarence A. Shore in 1929 after he had concluded twenty-one years' service as Director of the State Laboratory of Hygiene. By the time of his retirement, or soon after, as State Health Officer in 1925, Wake Forest College and Duke University each conferred an honorary degree upon Dr. W. S. Rankin. About a year later, Davidson College conferred a similar degree.

The total expenditures for the State Board of Health for the year ending June 30, 1942, were \$1,791,878.11. Of this amount \$370,150.59 was appropriated by the Legislature, \$65,403.89 of which was for the State Laboratory, \$178,405.32 by the Zachary Smith Reynolds Fund for syphilis control work, \$418,515.61 general and \$317,280.68 venereal disease fund by the U. S. Public Health Service, \$227,703.77 maternal and child health and \$120,-121.24 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and Laboratory fees totaling \$159,700.90.

There were some staff changes during the latter part of the year 1942. Following the resignation of Dr. Walter Wilkins, who resigned from his position as head of the School Health Coordinating Service, Dr. W. P. Jacobs, a native of North Carolina who had served as a staff officer of the International Health Board mostly in foreign service for the past thirty years, and who was retired from that service, was induced to accept the place vacated by Dr. Wilkins. Dr. Jacobs assumed direction of the department on October 5 of this year. Dr. Jacobs immediately proceeded to reorganize the School Health Coordinating Service and later on in the year a complete staff was secured, and by the late Autumn work was fully under way in that department in a number of counties.

In July of this year a joint State-Federal project for the production and evaluation of venereal disease educational materials was sponsored by the U. S. Public Health Service and the Zachary Smith Reynolds Foundation as an adventure in this specialized field of venereal disease education. The institute was set up to originate educational materials to demonstrate them and to evaluate their impact under the direction of Mr. Capus M. Waynick. Mr. Waynick is an experienced newspaper editor and a former high official of the State Highway Commission.

During this year the Division of Public Health Nursing in the School of Public Health at the University of North Carolina got underway with a full class who received degrees at the June commencement. The Public Health Nursing Division under the direction of Miss Ruth W. Hay as Professor of Public Health Nursing and with the assistance of Miss Margaret Blee as Assistant Professor and Assistant Director completed a most successful scholastic year. Thirty-eight nurses were enrolled in the year's course.

In the Autumn of this year the employees of the State Board of Health organized and established what is officially known as the North Carolina Academy of Public Health at the State Board of Health. All employees of the State Board of Health are members of this Academy and are required to attend monthly meetings. The objective is to review the entire program of the various divisions in order that each employee may have a general knowledge of the coordinated whole. This organization endeavors to act as a continuous refresher course and is designed to promote closer cooperation and social interest through the occasional gatherings for that purpose. The usual attendance is about 125. The officials of this organization elected at its organizational meeting were Dr. George M. Cooper, President, Dr. E. A. Branch, Vice President, and Mrs. Anne B. Edwards, Secretary and Treasurer.

The total expenditures for the State Board of Health for the year ending June 30, 1942, were \$1,791,878.11. Of this amount \$370,150.59 was appropriated by the Legislature, \$65,403.89 of which was for the State Laboratory, \$178,405.32 by the Zachary Smith Reynolds Fund for syphilis control work, \$418,515.61 general and \$317,280.68 venereal disease fund by the U. S. Public Health Service, \$227,703.77 maternal and child health and \$120,121.24 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and laboratory fees totaling \$159,700.90.

1943. The chronology for this year and the year following will be greatly condensed. The reason for this is lack of time for proper preparation on the part of the editors of the chronology who at the time of the preparation of this manuscript are overwhelmed in duties involved in the administration of the increased work necessitated by war demands. Another reason is the scarcity of print paper requiring brevity. It is understood that when peace is restored for the world and the department is able to resume its normal functions that the very unusual amount of activity carried on by a large number of persons in this period will be carefully and accurately set forth in the next volume of these reports which should be issued two years from now.

During this year, the work of the Board of Health was expanded in every direction. During 1943, the terms of Drs. G. G. Dixon and John LaBruce Ward as members of the State Board

of Health expired. They were reelected by the State Medical Society to succeed themselves, each to serve an additional four-year term which will expire in 1947. Dr. H. Lee Large, whose term expired in 1943, was reappointed by the Governor for a term of four years to expire in 1947. Dr. H. G. Baity, whose term as a member of the Board expired in 1943, was not reappointed by the Governor because of the fact that he had been given a leave of absence for a period of three years from his duties as Professor of Sanitary Engineering at the University of North Carolina for some important work with the U. S. Government to be done in South America. Dr. Baity's absence was expected to cover at least three years. The Governor appointed to serve in his place Dr. J. O. Nolan, a practicing physician of Kannapolis, his term to expire in 1947. In 1943, Mr. C. C. Fordham, Jr., of Greensboro, whose term was to expire in 1945, resigned to accept a commission in the armed service. The Governor appointed Mr. Larry I. Moore, Jr., a member of the Legislature from Wilson, North Carolina, to succeed Mr. Fordham, his term to expire in 1945.

During this year, arrangements were made for the establishment of a chair in the School of Public Health at the State University to teach a health education training course. Dr. Lucy S. Morgan was engaged as instructor in this field. Dr. Morgan was assigned to the State of North Carolina by the U. S. Public Health Service to inaugurate this work. Through the office of Dr. Mayhew Derryberry, Chief of Field Activities in Health Education of the U. S. Public Health Service, twenty fellowships were secured to provide for courses in this field of health education from the W. K. Kellogg Foundation of Michigan. Students entering on these fellowships come from all parts of the United States. These fellowships pay the recipients tuition and allow them a stipend for living expenses.

During this year, Mr. Warren H. Booker, who had been director of the Division of Sanitary Engineering since 1931, was placed on the retired list and Mr. J. M. Jarrett was appointed as his successor.

In the department of Central Administration, Miss Sara Wilkerson was employed as Personnel Officer and in charge of the enforcement of the Merit System regulations in so far as employment of workers in the State Board of Health is concerned. After several years' efforts and pressure from the Federal Government, a system of merit examinations was set up. All employees of the State Board of Health beginning with this year, except strictly professional service which has had to be deferred until the end of the present war, are selected. Any new places or any replacements must be filled from the list provided by the Merit System Supervisor. This covers all of the department personnel except, as just stated, the professional personnel.



In November of this year, the administrative supervisor of the crippled children's department in the Division of Preventive Medicine resigned after a little more than seven years' service. Following his resignation, there were some personnel changes in that department resulting from resignations. The department was practically reorganized but the work is conducted under the medical direction of the Division of Preventive Medicine.

Following some experimental work began in September 1942, with funds allotted by the U. S. Children's Bureau, one of the largest and most difficult programs ever undertaken by the State Board of Health was expanded early in this year. Reference is made to what is termed the EMIC program, the Emergency Maternity and Infant Care program, launched by the Federal Government for the purpose of providing free medical, nursing and hospital care in maternity cases for the wives of the men in the four lower pay grades of all the armed services and to provide for such care for the infants under one year of age of the same pay grades of the same classes of service men. This work has been a responsibility of the Division of Preventive Medicine in the department of maternal and child health services. It has necessitated meticulous contracts between the Board of Health, the cooperating hospitals who accept these patients, the physicians who attend them and any special nurses whose services are needed. Aid has been provided for women in every county of North Carolina. The work has been particularly heavy in this State because of the fact that a number of camps training soldiers for overseas duty were located here. Many of these young wives came to the vicinity of the camps to be near their husbands. Some of these lived in trailers, in crowded boarding houses and other undesirable places. It has been the duty of this department to secure the services of a physician who will accept the fees allowed by the government for complete maternity service, then to secure the contracts from hospitals who would accept these patients on the government terms which provide first class ward care. It has involved correspondence entailing thousands upon thousands of individual letters and much complicated financial and clerical work. As the year closed, this problem was growing bigger and bigger. More will be said about it and some of the results which have been accomplished will be mentioned in the chronology for 1944.

A division of consultant nurses was enlarged and expanded by which the State was divided into districts and the administration of public health nursing from the State level was carried on by these consultant nurses under the general supervision of the local health administration. This service does not include the highly specialized service necessary in the department of crippled children. The nurses in that department, two at present, carry on the highly specialized nursing required in the conduct of the clinics for the examination and later treatment of crippled children.

One of the new installations in this year was the establishment of a multilith department under a competent operator. This has relieved to some extent the demands on our printing as well as mimeographing.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1943, were \$1,880,230.62. Of this amount \$406,993.29 was appropriated by the Legislature, \$67,432.62 of which was for the State Laboratory, \$179,883.10 by the Zachary Smith Reynolds Fund for syphilis control work, \$289,981.30 general and \$463,125.09 general disease fund by the U. S. Public Health Service, \$184,807.17 maternal and child health and \$123,538.79 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and Laboratory fees totaling \$132,901.88.

Two Rapid Treatment Centers for the cure of venereal diseases were opened in North Carolina during the year. One is located in Charlotte, the other in Durham. The Charlotte Center, opened August 13, is financed out of Lanham Act funds, provided by Congress, and certain funds at the disposal of the State Board of Health, and is operated as a State enterprise, though staffed largely by United States Public Health Service officers. The Durham Center, also supported by Lanham Act funds, is operated by the United States Public Health Service, in cooperation with the State Board of Health. It was opened November 16.

1944. The summary of activities which may be recorded this year is simply a statement of the continuation of activities in every department of the State Board of Health which was underway in 1943. No new work has been established during the first six months period of 1944 covered by this report, except the enlargement and continuation of work heretofore carried on. It should be noted here that one of the employees, Mr. James Cooper of the Laboratory of Hygiene, who was on leave of absence to serve in the U. S. Air Corps, was killed over Rumania while performing his duties as a member of the crew of one of the big bombers attacking the Ploesti oil field. Another young engineer, Mr. Charles H. King, who was for several years employed in the Industrial Hygiene Division, died of meningitis while serving in the Army in Italy. Mr. King had left the service of the Board a few months before going into the armed services. He left the Board to accept service as an engineer in another State Health Department. These young men were valued employees of the State Board of Health and so far as is known were the only employees so far killed in the armed service.

Early this year, the State Board of Health inaugurated a rather drastic change in the local administration of health work. Heretofore this work was grouped under the Division of County Health Work with a single director in charge. The department was reorganized on a basis of divisional representation. Three districts were set up, the eastern district in charge of Dr. Joseph C. Knox,

the middle district in charge of Dr. R. E. Fox, and the western district in charge of Dr. J. Roy Hege. The purpose is to have more direct representation between the representatives of the State Board of Health and the local health authorities and to expedite the solution of the problems arising on the basis of administration. This arrangement was particularly deemed necessary on account of the problems related to the enforcement of venereal disease control throughout the entire State, as well as the many financial problems arising continually.

Dr. J. C. Knox resigned and left the service of the State Board of Health on June 30 for the purpose of entering private practice as a pediatrician in the City of Wilmington. Dr. Knox had been with the Board since he completed his postgraduate work in public health at Harvard University in 1931 and 1932. He was one of the most popular officials of the State Board of Health organization, and his departure was greatly regretted by everybody connected with the organization.

During this biennium, Dr. Carl V. Reynolds, State Health Officer, completed his term of office as President of the State and Territorial Health Authorities of North America. Dr. Reynolds served this term during the most hectic period of the preparation for war work when a great many public health measures were adopted and put into effect.

In the Division of Preventive Medicine, the administration of the Emergency Maternity and Infant Care Program continued to absorb most of the energies and resources of that department. Authorizations for medical care and hospitalization of maternity cases continued at between thirteen and fourteen hundred women a month as the biennium closed. Up to the end of the year, nearly one-half million dollars have been paid out for the completion of the care for more than five thousand women and several hundred infants of eligible service men. It is now clear that had Congress not made provision for this program and if the different States had not arranged for its prompt administration, literally thousands of women throughout the country would not have been able to procure medical or hospital care during confinement. The law has been impartially administered in this State. The wives and babies of service men of the four lower pay grades of any of the armed services who wanted to avail themselves of this aid have had it provided, regardless of social or financial standing. Funds to carry on this work, as above stated, were appropriated by Congress, at the beginning of the fiscal year, and the money is allotted to individual states by the U. S. Children's Bureau of Washington. Naturally, in any program involving the expenditure of as much money and requiring the cooperation of practically all the practicing physicians in the country who do general practice, including obstetrics, and with the pediatricians, as well as the hospitals and nursing profession, has resulted in the establishment of a great many rules and regulations by the Washington bureau, some of which have been inflexible and which

caused some friction in the administration, but for the most part practically all the hospitals in North Carolina with two or three notable exceptions have cooperated wholeheartedly and several hundred practicing physicians have also participated in the service.

On September 1, 1944, Dr. William P. Richardson, District Health Officer of the Chapel Hill District, succeeded Dr. J. C. Knox, resigned, as Director of the Eastern District of the Local Health Administration Division. On September 1, Dr. William D. Hazelhurst of the U. S. Public Health Service joined the staff of the Division of Local Health work as a consultant in the V. D. program. Miss Mary Batchelor, field representative with the Division of Local Health Administration, which position she had most acceptably filled for many years, resigned her position effective September 30 of this year. Miss Batchelor was a very popular representative of the Board and resigned to marry a member of an old Kentucky family. Miss Batchelor was succeeded by Miss Sarah Goggans as field representative, Miss Goggans being transferred from the position as head of the Central Filing System, and assumed her new duties on January 1, 1945.

Early this year Governor Broughton appointed a Commission of State-wide significance, known as the "Hospital and Medical Care Commission," composed of fifty citizens of the State. Dr. Clarence Poe of Raleigh was made Chairman. Doctors Carl V. Reynolds and George M. Cooper were appointed to serve on this Commission along with several physicians including Dr. Hubert B. Haywood, a member of the State Board of Health. The purpose of this Commission was to make a careful study of the existing medical and hospital facilities and the lack of such facilities in all parts of the State, and to make recommendations to be presented to the incoming Legislature of 1945. The Commission did a thorough job and recommended that the two-year medical school of the University of North Carolina at Chapel Hill be expanded into a four-year school, and that the school be provided with a large central teaching hospital, and that several hospitals be built in areas of the State now without any facilities at all.

The total expenditures for the State Board of Health for the year ending June 30, 1944, were \$2,203,805.31. Of this amount \$439,213.47 was appropriated by the Legislature, \$65,240.38 of which was for the State Laboratory, \$178,188.05 by the Zachary Smith Reynolds Fund for syphilis control work, \$391,043.73 general and \$424,064.75 venereal disease fund by the U. S. Public Health Service, \$524,228.04 maternal and child health and \$124,035.65 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and Laboratory fees totaling \$123,031.62.

1945. Dr. J. Roy Hege resigned his connection with the Division of Local Health Administration as of June 30, 1944, to return to Winston-Salem as District Health Officer for Forsyth, Stokes, Davie, and Yadkin counties. After serving in this capacity for one year he

returned to the State Board of Health July 1, 1945, and resumed his old position as Director of the Central District of the Division of Local Health Administration. Miss Mary Louise Hewitt resigned from the staff as a consultant in public health nursing connected with the Local Health Administration Division effective March 31, 1945. Miss Lila Anderson of the U. S. Public Health Service was assigned to the State Board of Health in the capacity of consultant nurse effective December 15, 1945.

On September 1, 1945, Dr. W. P. Jacocks resigned as Director of the School Health Coordinating Service and was succeeded by Dr. E. H. Ellinwood effective on the same date. Miss Bessie Beale, colored nutritionist, was appointed to the staff of the Coordinating Health Service effective June 1, 1945. On May 15, 1945, Mrs. Anne Cain became a member of the nursing staff of the Coordinating Health Service. Miss Jennie L. Douglass, colored health educator, resigned her position with the Coordinating Health Service July 1, 1945.

In 1945 Dr. John F. Kendrick, who had organized the Nutrition Division as early as 1942, was recalled in August of this year by the Rockefeller Foundation for foreign service. Dr. W. P. Jacocks succeeded him as Director of the Nutrition Division effective September 1, 1945, on the same day he resigned from the Directorship of the School Health Coordinating Unit. During this year Miss Mary Parks Bell was appointed to one of the positions of nutritionist and assumed her duties in August. Mrs. Mary W. Thrasher resigned her position as nutritionist in the department in July. The principal development in the year in the Nutrition Division was the organization of nutrition consultant service to health and school administrations and community organizations.

At a meeting in Pinehurst on May 2, 1944, the State Board of Health authorized the creation of a Bureau of Tuberculosis Control to be set up as a part of the State Board of Health. At this time no funds had become available for the administration of such new activities. However, the Division of Industrial Hygiene had been operating in this capacity on a part-time basis as a pilot plant. This experiment had been carried on with aid and assistance from the U. S. Public Health Service, and as early as January, 1944, some forty-two thousand industrial employees had been examined. The findings had been such that the need for this new work was unquestionably great. The Bulwinkle Bill proposing Federal grant-in-aid funds for the control of tuberculosis had already been introduced. The State Health Officer requested the 1945 General Assembly to make an appropriation with which to administer such grant-in-aid funds as might be forthcoming. House Bill No. 11, Chapter 279, Section 18—1945 Session Laws of North Carolina authorized the appropriation . . . "to supervise the Federal tuberculosis program in this State. . . ." The first monies actually became available for this purpose late

in the spring of 1945. Dr. T. F. Vestal, Director of Industrial Hygiene since 1939, was made director of the new Bureau of Tuberculosis Control, and has since been diligently engaged in securing the necessary equipment and personnel, and in getting the program under way. The Bureau is operating this year with a budget of two hundred seventy-one thousand dollars and to date has made chest X-ray examinations on approximately one hundred and fifty thousand citizens of the State.

On January 1, 1945, Dr. T. F. Vestal, who was transferred to head a new Bureau of Tuberculosis Control, was succeeded as Director of the Division of Industrial Hygiene by Dr. C. B. Davis of Wilmington.

On October 1, 1945, Dr. R. T. Stimpson, Director of the Division of Vital Statistics, resigned to enter private practice. The Division of Vital Statistics was on that date combined with the Division of Epidemiology with Dr. C. P. Stevick as Director. Dr. Stevick has been Director of the Division of Epidemiology since December 15, 1943, at which time Dr. J. C. Knox, former Director of that Division, had been made a District Director in the Division of Local Health Administration. The newly organized Division of Vital Statistics and Epidemiology offers an opportunity for the development of graphic statistical data regarding morbidity and mortality with which to educate the public regarding the needs of approach to the public health problems of the State.

The 1945 Legislature established a State Stream Sanitation and Conservation Study Committee. The Chairman of that Committee was Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering of the State Board of Health. It is hoped that this action of the Legislature will eventually result in abatement of stream pollution in North Carolina which has been for some years a serious problem. A survey of the waste problem is also under way by this Committee. During this year, the Public Health Service expanded its endemic typhus fever control program and considerable work has been done in the ratproofing of buildings and dusting with DDT. Typhus morbidity has shown a great decrease, which is attributed to the DDT dusting program, as well as other measures of control. A milk laboratory was established at Lexington for control purposes in that area of the State. This laboratory has been placed under the supervision of the Division of Sanitary Engineering. Complete bacteriological and sanitary surveys were made of all shellfish growing areas in the State, in cooperation with the Public Health Service, over 5,000 water samples being examined. Through cooperation of the State Department of Conservation and Development and the U. S. Geological Survey, the Laboratory of the U. S. Geological Survey was moved from State College to the Laboratory of Hygiene Building and complete chemical and mineral analyses are being made of all public water supplies in the State.

In this year, the Division of Preventive Medicine was overwhelmed with work in connection with the administration of the Emergency Maternity and Infancy Care Program. About one million dollars was expended during the year in payment for hospitalization and medical service for maternity care of wives of servicemen in the lower four pay grades of the armed service. This work continued to require an immense amount of personal correspondence and attention to thousands of administrative details. The accounting department was perfected early in the year under the direction of Mr. B. P. Pearson, aided by the stenographic and other personnel of the office. By the end of the year this department was functioning smoothly, bills were being paid both to hospitals and physicians as rapidly as possible. In June of this year, Dr. Merl J. Carson who was for more than three years a consultant in pediatrics attached to the Division resigned to become associated with the faculty of Washington University Medical School in St. Louis. Dr. Carson's leaving left the Director of the service as the only physician connected with the entire program including that of crippled children's work. This placed a heavy burden upon the shoulders of the lone Director, but owing to scarcity of physicians and war service and otherwise, it was not possible to secure a successor for Dr. Carson or a senior physician in the Crippled Children's Department so badly needed.

For the first year since the State Board of Health was organized in 1877 there was no annual meeting of the North Carolina State Medical Society, and hence no report of the Board to a Conjoint Session. This was because of war emergency and restrictions on conventions and travel.

The Legislature enacted some laws toward the close of the session "accepting in principle" the report of the Broughton Medical Care Commission. Governor Cherry, upon whose recommendation the Legislature acted, appointed a new and smaller Commission endowed with extensive powers to make new studies of the needs for medical care, etc. Among other powers given to this Commission, whose Chairman is James H. Clark of Bladen County, is the sole power to administer the funds appropriated by the Legislature for aid in hospital care for those who need and claim it. They also have the sole responsibility for deciding what areas of the State may have aid from Federal funds as well as State, in building new hospitals and expanding present facilities.

The total expenditures for the State Board of Health for the year ending June 30, 1945, were \$2,807,963.50. Of this amount \$430,827.80 was appropriated by the Legislature, \$66,545.75 of which was for the State Laboratory, \$171,948.80 by the Zachary Smith Reynolds Foundation for syphilis control work, \$384,220.61 general, \$377,570.23 venereal disease and \$1,937.56 for tuberculosis by the U. S. Public Health Service, \$153,722.78 maternal and child health, \$990,129.61 emergency maternity and infant care,

and \$119,144.95 crippled children's service by the U. S. Childrens' Bureau, and miscellaneous receipts consisting of bedding, dental, V. D., printing, and Laboratory fees, totaling \$178,461.16.

1946. Dr. E. H. Ellinwood resigned his position as Coordinator of the School Health Coordinating Service effective June 30, 1946.

On January 30, 1946, Dr. C. B. Davis resigned his position as Director of the Division of Industrial Hygiene. He was succeeded by Dr. Otto J. Swisher, who assumed his duties February 1, 1946. Early in this year, Mr. W. E. McCormick, who was with this Division on a lend-lease basis from the U. S. Public Health Service resigned and left the Division to join the Georgia State Department of Health. The activities of this Division despite the numerous personnel changes have gone along in about the usual manner. The major portion of the time and effort is necessarily spent in dusty trade activities. However, the entire time of the mobile X-ray unit is not taken up with this type of work and has assisted on numerous occasions with tuberculosis surveys in various industries throughout the State. During the early months of this year, efforts have been exerted to bring up-to-date the work in the foundries throughout the State. This particular phase of the work, during the war years, had been allowed to assume a minor role due to the stress placed upon the various mining industries, chief among which was the mica mining which was such an important war material.

Miss A. Helen Martikainen of the U. S. Public Health Service, who joined the staff of the Division of Local Health Administration as assistant director of health education as of December 1, 1944, was recalled by the Public Health Service effective June 30, 1946. Miss Martikainen's contribution to public health education work in North Carolina was of material value. Mr. Horace Holmes, Jr., of the U. S. Public Health Service, became a member of the staff of the Local Health Administration Division January 1, 1946. Mr. Holmes' work has largely been in dealing with surplus property and studies in connection with V. D. control. In his work dealing with surplus property, Mr. Holmes has assisted Dr. S. D. Craig who for several months of this year had charge of the surplus property disposal work for the State Board of Health. Miss Idell Buchan was transferred from the staff of the Division of Preventive Medicine to the position of consultant public health nurse in the Division of Local Health Administration on January 15 of this year. On June 30, the Local Health Administration Division lost a valuable consultant in public health nursing when Miss H. Lillian Bayley resigned her connection with the Division to accept a position as supervising public health nurse in New Hanover County.

A trailer laboratory has been constructed for use in the Division of Sanitary Engineering for work in the milk, municipal, water, shellfish, and sewage disposal problems connected with the



Division. The program of abattoir construction has developed satisfactorily during 1945 and the early portion of 1946. There are now, as of June 30, 1946, over one hundred approved abattoirs in the State.

On January 15, Dr. John W. Mahoney, obstetrician connected with the Gallinger Hospital in Washington for several years, joined the staff of the Division of Preventive Medicine as a consultant in obstetrics. Miss Jean Donald was employed as a medical social worker and assumed her duties on May 1 with the Department of Crippled Children.

During this year Mr. Capus M. Waynick resigned as head of the Division of Venereal Disease Education Institute and was succeeded by Mr. T. C. Johnson acting. Miss Maggie Blackburn, a trusted employee of the State Board of Health for more than twenty years, continued ill and a patient in the Wake County Sanatorium. Mrs. Mary Cross, an employee of the Vital Statistics Department for more than twenty years, was retired.

The whole State public health service suffered a serious blow in the death of Dr. Milton J. Rosenau, since 1936 head of the Public Health School of the University of North Carolina, which occurred at his home in Chapel Hill, April 9, 1946.

As of June 30, the members of the State Board of Health in office were: Dr. S. D. Craig, President, Winston-Salem, Dr. J. N. Johnson, Vice President, Goldsboro, Dr. G. G. Dixon, Ayden, Dr. H. Lee Large, Rocky Mount, Dr. W. T. Rainey, Fayetteville, Dr. Hubert B. Haywood, Raleigh, Dr. John LaBruce Ward, Asheville, Dr. James O. Nolan, Kannapolis, and Mr. Jasper C. Jackson, Lumberton.

The total expenditures for the State Board of Health for the year ending June 30, 1946, were \$2,901,386.60. Of this amount \$510,504.65 was appropriated by the Legislature, \$75,879.63 of which was for the State Laboratory, \$179,593.90 by the Zachary Smith Reynolds Fund for syphilis control work, \$414,501.42 general, \$384,633.85 venereal disease and \$49,396.23 tuberculosis control fund by the U. S. Public Health Service, \$151,212.21 maternal and child health, \$948,452.47 emergency maternity and infant care, and \$120,445.64 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and laboratory fees totaling \$142,646.23.

1947. The principal item of interest worth recording in this chronology during the year 1947 was the biennial meeting of the State General Assembly. The session lasted for about three months and was marked by about the usual interest in a General Assembly which meets in the mid-term of a Governor. The appropriation made to the State Board of Health remained about the same as allocated by the previous Legislature. Not many changes were

made in the laws concerning State health work. The State Health Officer submitted some legislation for the purpose of conferring authority on the State Board of Health to regulate the milk industry of the State. The Legislature refused to enact the requested legislation made by the State Health Officer.

For at least a quarter of a century, the State Board of Health had repeatedly sought legislation conferring definite authority on the Board for the purpose of assuring a safe milk supply to the people of the State. The sole interest of the Board of Health at all times in this matter was to protect the public from the purchase of unsafe milk. The General Assembly had never conferred the required authority on the State Board of Health in this field and so the General Assembly of 1947 followed the action of most of its predecessors and refused to enact this legislation. As the legislation requested by the Board of Health was turned down by the General Assembly, the State Commissioner of Agriculture set up regulations under the general authority of law possessed by the Department of Agriculture, especially under the authority conferred by the Federal and State Pure Food and Drug Laws which the Department of Agriculture is charged with enforcing. The Governor and Commissioner of Agriculture appointed a commission to make further studies of the milk industry and the marketing of milk from the standpoint of safety. This commission had not made a report prior to June 30, 1948, which is the period covered by this report.

During the fiscal year ending June 30, 1947, very few material changes took place in the administration of the State Health Department. The Legislature of 1947 enacted some other laws which affected certain administrative procedures of the State Board of Health. The most important were the following:

The existing laws permitting the organization of district boards of health were revised to permit the State Health Office to appoint ex-officio members in cases of vacancies. This further strengthened the district board of health plan so as to permit more satisfactory function of health departments covering two or more counties.

The existing statutes pertaining to the State Stream Sanitation and Conservation Committee were revised so as to permit more effective function in solving the serious problems existing in the State with regard to stream pollution.

The State Board of Health was authorized to issue photostatic copies of birth certificates to have full legal value as certified copies.

The State laws pertaining to examination of school employees was revised so as to require a more complete examination and that the examination be performed annually.

One important arrangement perfected during the year was the provision of photostatic copies of every maternal death certificate coming to the State Board of Health from anywhere in the

State promptly on receipt of the monthly reports from the local registrars throughout the State. This provision was made through contribution of funds from the U. S. Children's Bureau sufficient to employ an extra clerical worker in the *Department of Vital Statistics* to go through all of the death certificates each month and to select these items. The photostatic copies are sent monthly to Dr. Frank R. Lock, chairman of the Maternal Welfare Committee of the North Carolina State Medical Society. Dr. G. M. Cooper, Director of the Maternal and Child Health Service of the State Board of Health, is a member of that committee and through his office and the *Department of Vital Statistics* this arrangement was perfected. The work of the Maternal Welfare Committee under the very able chairmanship of Dr. Lock has already demonstrated what can be done toward a further lowering of the maternal death rate in the State. This was one of the most important features of the Maternal and Child Health Service carried out during this year.

Dr. Paul E. Jones, a dentist of Farmville, Pitt County, North Carolina, was appointed to membership on the State Board of Health following the recommendation of the North Carolina Dental Society. Dr. Jones' appointment was to fill the vacancy left by the death of Dr. J. N. Johnson, long time member of the Board of Health who died at his home in Goldsboro on December 2, 1946.

During this year Mr. M. M. Melvin, an employee of the Department of Sanitary Engineering for twenty-seven years, resigned and left the department for other work in the State.

As of June 30, 1947, the members of the State Board of Health in office were Doctors S. D. Craig, Paul E. Jones, G. G. Dixon, H. Lee Large, Hubert B. Haywood, W. T. Rainey, John LaBruce Ward, James O. Nolan, and Jasper C. Jackson.

The State Board of Health met in annual session May 14, 1947, at Virginia Beach, Virginia, on account of the fact that the State Medical Society of North Carolina met at Virginia Beach because hotel accommodations could not be found in the State of North Carolina. At the meeting of the Board of Health at Virginia Beach, Dr. Carl V. Reynolds was re-elected for a term of four years as State Health Officer to begin July 1, 1947. Dr. George M. Cooper was re-elected at the same time as Assistant State Health Officer for the same four year period of service beginning July 1.

Miss A. Helen Martikainen, Health Education Consultant with the U. S. Public Health Service, who was transferred from the North Carolina State Board of Health to District No. 2 Office, Richmond, Virginia, on August 1, 1946, was transferred to North Carolina again on August 1, 1947, assigned to the Division of Local Health Administration to assist with the development of a statewide health education program.

Miss Lila Anderson, Nursing Consultant with the U. S. Public Health Service assigned to North Carolina to assist with nursing aspects of tuberculosis control program, was transferred from North Carolina on September 13, 1948.

Dr. J. Roy Hege, formerly connected with the Department of Local Health Administration, was transferred to the Directorship of the Department of Vital Statistics and Epidemiology. After a few months' service, he resigned to accept the position of County Health Officer for Cabarrus County.

The total expenditures for the State Board of Health for the year ending June 30, 1947, were \$2,814,937.00. Of this amount \$561,996.00 was appropriated by the Legislature; \$117,132.00 by the Zachary Smith Reynolds Foundation for syphilis control work; \$372,511.00 General, \$351,033.00 Venereal Disease, \$233,997.00 Tuberculosis Control, and \$2,220.00 for Cancer Control by the U. S. Public Health Service; \$210,461.00 Maternal and Child Health, \$663,520.00 EMIC, and \$168,350.00 Crippled Children's Service by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and laboratory fees totaling \$133,717.00.



1948. The principal difficulty encountered by the State Board of Health during this period, namely, the first half of the calendar year ending June 30, 1948, has been the difficulty of obtaining necessary professional help, such as physicians, physiotherapists, engineers, dentists, medical social workers, etc., to carry on the work of the State Board of Health. For the first time in the history of the State, a large number of county health officers today are receiving much larger salaries than the top bracket staff officers of the State Board of Health. This is not a healthy condition for the State Health Department and it is to be hoped that the Legislature of 1949 will make some provisions to remedy this situation. Naturally, with the top bracket help held on a lower salary schedule than similar professional people in other lines of activity, it results in depressing the pay of the rank and file of the employees who are suffering great hardship at this time on account of the inflation and the comparatively low salaries paid. Much hardship is experienced by some of these employees, many of whom have given faithful service for many years.

There have been no changes in the membership of the State Board of Health as recorded last year. The same personnel are in office today that were in office a year ago. The most conspicuous event taking place during this part of the biennium was the resignation of Dr. Carl V. Reynolds as State Health Officer effective June 30. Dr. Reynolds retired after serving a little more than 13½ years. As recognition of the work of Dr. Reynolds, the State Board of Health at its meeting in Pinehurst May 5 voted a bonus of \$2,000.00 in cash to Dr. Reynolds to be paid from the Reynolds Foundation administrative fund, of which Dr. Reynolds had been custodian for some years. In addition to this, the

State Board of Health later on provided \$1,000.00 additional bonus to Dr. Reynolds from the Reynolds Foundation fund for his service as a consultant for a few weeks following the assumption of office of Dr. J. W. R. Norton on July 1.

The following changes in the staff took place during this period:

Dr. T. F. Vestal, Director of the Bureau of Tuberculosis Control, having resigned, Dr. William A. Smith, a retired officer from the U. S. Army Medical Corps, accepted the appointment as Director of that Division.

Dr. Ivan Procter also accepted appointment as Director of the Division of Cancer Control. Doctor Procter's appointment became effective March 1, 1948, at which time the Division began an active plan of statewide cancer control. Assisting Doctor Procter as Director, Mildred Schram, Ph. D., became Field Director.

At the meeting of the State Board of Health in Raleigh on February 24, President Craig read Doctor Reynolds' letter of resignation as Secretary and State Health Officer effective June 30, 1948. The Board accepted Doctor Reynolds' resignation with sincere regrets. Following the acceptance of Doctor Reynolds' resignation, Doctor Nolan of Kannapolis, member of the Board, moved that the President of the North Carolina State Board of Health offer the position of Secretary and State Health Officer to Doctor Thomas Parran, Surgeon-General, U. S. Public Health Service. This was a few days after the appointment of a successor to Doctor Parran by President Truman. On March 31, 1948, having been informed by Doctor Parran that he could not accept the appointment as State Health Officer, there was a special call meeting of the State Board of Health which met in the auditorium of the State Laboratory of Hygiene in Raleigh for the purpose of electing a Secretary and State Health Officer, the appointment to become effective July 1. At a previous meeting of the Board, a nominating committee had been appointed with Doctor Hubert B. Haywood, member of the Board of Health from Raleigh, as chairman. Doctor Haywood reported that the committee had had a difficult task to obtain the services of a successor to Doctor Reynolds. Several names of physicians with their qualifications were submitted to the Board at this time, some of them recommended by friends and colleagues. At this meeting, the Board of Health obtained the cooperation of the State Budget Bureau in increasing the salary of the State Health Officer to become effective July 1 to \$10,000 annually. In the final balloting of the Board of Health, three names were presented. Doctor J. W. R. Norton, native of Scotland County and Chief Health Officer of the TVA of Chattanooga, Tennessee, received a majority of the votes. Hence, Doctor Norton's election was made unanimous. After the election of Doctor Norton, Governor Cherry was notified, and the Governor immediately approved the election of Doctor Norton, as required by law.

Effective June 24, Doctor R. Eugene Fox and Doctor William P. Richardson, who had been Director and Associate Director, respectively, of the Division of Local Health Administration, resigned.

The total expenditures for the State Board of Health for the year ending June 30, 1948 were \$2,684,277.00. Of this amount \$794,774.00 was appropriated by the Legislature; \$11,981.00 by the Zachary Smith Reynolds Foundation for syphilis control; \$424,576.00 general, \$335,700.00 venereal disease control, \$250,079.00 tuberculosis control, and \$35,794.00 cancer control by the United States Public Health Service; \$250,028.00 Maternal and Child Health, \$206,183.00 EMIC, and \$258,017.00 Crippled Children's Service by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and laboratory fees totaling \$117,145.00.

A detailed account of the organization work of each one of the divisions covering the activities of this biennium will be found in the pages to follow.

## **REPORT OF THE SECRETARY-TREASURER AND STATE HEALTH OFFICER**

**July 1, 1946 - June 30, 1948**

Excerpts of the activities of the State Board of Health as recorded in the Minutes:

AUGUST 7, 1946. The first regular quarterly meeting of the North Carolina State Board of Health for the biennium beginning July 1, 1946 - June 30, 1948, was held on August 7, 1946 in the auditorium of the State Laboratory of Hygiene. The meeting was called to order by President Craig. Secretary Reynolds read the minutes of the regular quarterly meetings of the Board for March 20 and May 3, 1946, and also of special called meetings of the Board held on June 3 and June 12, 1946. Each set of minutes was approved.

The Oath of Office was administered to Dr. Paul E. Jones of Farmville, the newly appointed member of the Board to fill the unexpired term of Dr. J. N. Johnson, who resigned on account of ill health. Also the Oath of Office was administered to Doctors S. D. Craig and W. T. Rainey, who were re-elected to the Board by the North Carolina Medical Society at its annual meeting held in May at Pinehurst.

On motion of Doctor Dixon, seconded by Mr. Jackson, Dr. S. D. Craig was unanimously re-elected President of the Board of Health.

On motion of Dr. Rainey, seconded by Dr. Ward, Dr. Dixon was unanimously elected Vice-President of the Board.

Secretary Reynolds reviewed the poliomyelitis situation in Florida, and compared the number of cases as they exist now with that of the last meeting of the Board. He displayed maps and charts showing the total number of cases in North Carolina this year through August 6; the polio cases in Florida by weeks, and a chart showing the 385 cases of polio in Florida from January through August 5.

The Secretary also told the Board about the critical editorial that appeared in the American Medical Association Journal of July 27, 1946, criticizing "quarantine against poliomyelitis." The editorial was discussed in detail, and it was decided that the Secretary write a letter to Dr. Morris Fishbein, the editor, setting forth certain pertinent facts relative to polio. Dr. Ward made a motion that the Secretary be instructed to reply to the editorial appearing in the AMA Journal of July 27, 1946, concerning the advisability of quarantining against poliomyelitis. Motion seconded by Dr. Dixon, and carried.

Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering, was recognized. He presented a proposal for a much needed sewage collecting system for Longview, North Carolina, stating that a thorough investigation of sanitary conditions had been made, and that they were found to be very insanitary, sewage facilities inadequate, and conditions

a menace to the public health of the citizens. Mr. Jarrett stated that a bond issue had been carried, however, the bond issue exceeded the 8.0% limit established by the Municipal Finance Act, and bonds cannot be issued unless the Town is ordered by the State Board of Health to install a system of sanitary sewers. He read an Order from the North Carolina State Board of Health for installation of sanitary sewers, and discussed it. On motion of Dr. Dixon, seconded by Dr. Nolan, the Order to the Town of Longview by the N. C. State Board of Health was adopted. Motion carried.

Mr. Jarrett also discussed with the Board rules and regulations for carrying out the requirements of an Act passed at the 1945 Legislature, namely, "An Act to Authorize the State Board of Health to Establish Sanitary Standards and Methods of Inspection for Private Hospitals, Sanitariums, Sanatoriums, and Educational Institutions." These rules and regulations are based on the same principles as those previously adopted for hotels, cafes, etc., as is also the score sheet covering same. Dr. Dixon stated that the Board members would want to review the rules and regulations, and therefore moved that a copy of the above named Act, rules and regulations for the purpose of carrying out the requirements, and a copy of the score sheet covering same, be given to every member present, and a copy sent to the members not present, for their review and information, — a letter to follow later to the Board members for their signature giving their approval or disapproval of the adoption of said rules and regulations for the purpose of carrying out the requirements of Chapter 829, Public Laws of 1945. Motion seconded by Dr. Nolan, and carried.

Secretary Reynolds reported to the Board the difficulty that was being experienced in securing personnel, clerical and professional. This caused the preparation of the comparative salary schedule of North Carolina with that of other states sent out to Board members previous to this meeting, for review and information. Dr. Reynolds stated, with the Board's approval, he would present the schedule to the Advisory Budget Committee and the Budget Officer, and ask for an upward revision in the salaries of the personnel of the State Board of Health.

Dr. Dixon moved that the Budget Bureau be requested to make upward revisions in the compensation schedule of professional personnel of the State Board of Health as indicated on the tabulation report of July 1, 1946 as compared with other states. Motion seconded by Dr. Nolan, and carried.

Another item of vital importance discussed by Dr. Reynolds was the National Mental Health Act (Public Laws 487, 79th Congress), a bill passed by the Federal Government on mental hygiene for the control of prevention, research, treatment of mental cases, etc. The program has not been developed as yet, neither has the Agency been delegated by law to carry out the project. A copy of letter was read to the Board, for their information, from Governor Cherry addressed to the U. S. Public Health Service, mentioning two State agencies in North Carolina which were



concerned with administering mental health programs, namely, the State Board of Public Welfare and the State Hospitals Board of Control, — but neither agency was designated in the communication.

The advisability of having only Grades A and B for hotels, cafes, milk, etc., and eliminating Grade C entirely, was discussed by Secretary Reynolds. He advocates having only two grades and being a little more liberal in Grade B, thereby eliminating Grade C. No action was taken.

In his discussion of sanitation and grades, the Secretary told the Board that the dairymen contemplate the introduction of a bill in the next Legislature placing the control of milk in the State Board of Health.

Due to the resignation of Dr. J. N. Johnson from the Board, Dr. Dixon moved that the State Health Officer and President of the Board draft proper resolutions setting forth appreciation of Dr. Johnson's past services, and regrets for his retirement on account of ill health. And, that this resolution shall be on scroll, signed by each member of the Board, framed and then forwarded to Dr. Johnson. Motion seconded by Dr. Nolan, and carried.

Dr. Nolan moved that the future meetings of the Board of Health be held on Thursdays instead of Wednesdays. Motion seconded by Mr. Jackson, and carried.

DECEMBER 19, 1946. The North Carolina State Board of Health met in regular quarterly session, Thursday, December 19, 1946, at 10:00 a. m., in the auditorium of the State Laboratory of Hygiene, President Craig, presiding.

Secretary Reynolds read the minutes of the last meeting of the Board, August 7, 1946, which were approved as read.

For further information of the Board, Secretary Reynolds reviewed the article that appeared in the AMA Journal of July 27, 1946, relative to "quarantine against poliomyelitis," and read a letter that he wrote, at the request of the Board to Dr. Morris Fishbein, asking that he, Dr. Fishbein, give proper space to it in the columns of the Journal. Dr. Fishbein acknowledged the statement and promised to print the article in the Journal,—which was done.

Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering, was recognized. He presented to the Board reports of surveys made relative to installation of sewage works improvements for the towns of Tabor City, Whiteville, Cornelius, and Davidson. Mr. Jarrett explained that in each of these cases conditions exist which are detrimental to public health. Complete investigations also indicate that the officials of each town are willing to install facilities but have been unable to sell bonds because of debt limitation and regulations of the Local Government Commission; but a provision in this law, however, allows the 8% debt limitation to be exceeded when work is ordered by the State Board of Health. It was the opinion of Mr. Jarrett and his recommendation, that orders be issued for each of the four towns mentioned. Doctor Large made a motion that

orders be issued to the town officials of Tabor City, Whiteville, Cornelius, and Davidson, ordering that these towns proceed forthwith to construct and put into operation required additional sewers and sewage treatment plants. Motion seconded by Doctor Dixon, and carried.

Mr. Jarrett also discussed the proposed "Rules and Regulations defining Hospitals, Educational Institutions, State Board of Health, Inspector, Person, Etc., Requiring Approval of Plans, Regulating the Inspection, Grading and Placarding of Such Establishments, and the Enforcement and Interpretation of These Rules and Regulations," as prepared in accordance with provisions of Chapter 130-280 through 130-282 of 1945 Cumulative Supplement to the General Statutes of 1943. These regulations were presented at the last meeting of the Board, and a copy sent to each member for their review and information, and approval or disapproval. Favorable replies were received from a majority of the members; however, it was deemed wise to take the matter up with the North Carolina Hospital Association. Representatives of the Division of Sanitary Engineering held a conference with a committee from the Hospital Association, reviewing and discussing the rules and regulations in detail, and the Committee presented the following amendments to the regulations as suggested by the North Carolina Hospital Association:

1. Page 3, Item 1, Sentence 2—Changed to read as follows: "The walls and ceilings shall be painted a light color as frequently as necessary to keep them clean and sanitary."

2. Page 3, Item 2, Section 4—Added "provided that this item shall not apply during periods of emergency."

3. Page 6, Item 6, Section 5—Added "commode or urinal."

4. Page 17,—explanation regarding glass washing changed to read as follows:—"Glasses in small numbers may be washed manually and the same methods observed in washing, rinsing and subjecting to bactericidal treatment; however, where facilities are inadequate to the need in order to wash glasses effectively, a power-driven glass washing machine shall be required."

5. Page 21, Section 12—"All milk and milk products served or used for cooking or any other purposes, shall be Grade A when available."

6. Page 22, Item 17—"All employees shall be free of communicable and infectious diseases such as tuberculosis, syphilis, and gonorrhea, communicable skin diseases, and are not carriers of typhoid."

7. Page 22, Item 1—Added "in the infectious stage."

The principal discussion, however, was regarding Section 3 on page 2. The suggestion was made that the following be added:—"Provided that if the first inspection does not result in a Grade A rating no grade sign shall be posted until a reasonable time is given to make necessary improvements."

Considerable discussion was held regarding this last suggested amendment, after which it was decided by the Board that this amendment would not be placed in the regulations since it did not appear in any other regu-

lations relating to sanitation of other food handling places, however, upon motion of Doctor Haywood, seconded by Doctor Dixon, all other amendments were approved. Amendment to Section 3, page 2 was approved with the proviso that this suggestion be continued as a foot note to the regulations being a statement of policy of the Board regarding the rating of all food handling places and not specifically applying to private institutions. Motion carried.

Mr. Jarrett also told the Board that two members of the Committee, Mr. Forbus and Mr. Mickey of the Hospital Association, were not present, but sent word that they wished the Board to consider the question of serving milk in original containers. Because of storage space, representatives of Duke and Watts Hospitals had suggested that they be allowed to handle bulk milk rather than purchase all milk in individual pint or one-half pint bottles. The Board did not look with favor upon this suggestion, and this was denied, requiring all milk to be served to patients or students in the original containers.

Dr. T. F. Vestal, Director of the Division of Tuberculosis, was recognized. He gave a very interesting and concise report on the activities of the Tuberculosis program since the Board last met. He discussed the mass survey directed chiefly toward the adult population, examining for tuberculosis by chest X-rays in Gaston, Cleveland and Wayne counties, also the student body at Chapel Hill, State College, City of Rocky Mount, and now working in Roanoke Rapids. A total of about 150,000 examinations have been made with about 297 definite cases of tuberculosis being diagnosed. This work has been made possible through cooperation with the U. S. Public Health Service furnishing considerable equipment and personnel in carrying out the survey in the three counties.

Also Doctor Vestal discussed the project at Battleboro, N. C., which he conducted on the Braswell Farms where approximately 1200 people were examined. This group is of interest because of the fact that they were all farmers. The project was the first of its kind in that it combined with mass X-ray survey, oral hygiene and blood examinations, and is the first group confined solely to farmers.

President Craig appointed a committee of three, namely, Dr. Paul E. Jones, Dr. G. G. Dixon and Dr. W. T. Rainey, to draft suitable resolutions on the death of Dr. J. N. Johnson, which occurred December 2, 1946,—a copy to be incorporated in the minutes of the Board, a copy sent to the press, and a copy sent to Mrs. Johnson.

The Board also moved that Dr. Haywood and Dr. Craig prepare suitable resolutions on the death of Dr. Paul P. McCain, who died November 25, 1946,—and that a copy of these resolutions be sent to Mrs. McCain, a copy sent to the press, and a copy filed in the minutes of the State Board of Health.

Dr. W. T. Rainey was appointed to succeed Dr. J. N. Johnson as a member of the Executive Committee of the State Board of Health.

Secretary Reynolds told the Board about the ringworm epidemic in Graham, Alamance counties, there being 200 cases, and of the assistance rendered to the local authorities by the U. S. Public Health Service and Dr. Callaway of Duke. Dr. Reynolds said they were using the X-ray on certain groups and three different ointments on another group, to ascertain the most beneficial results as to cure.

The Secretary discussed the advisability of placing the barber shops under the jurisdiction of the State Board of Health, but no action was taken.

Pursuant to the above motion passed at the meeting of the Board held on December 19, 1946, the following resolution was sent, as requested, to Mrs. J. N. Johnson, Goldsboro, N. C., January 9, 1947, and copy filed in the Minute Book:—

*"Resolution passed by the North Carolina State  
Board of Health in memory of Dr. J. N. Johnson.*

"Resolved, That the members of the North Carolina State Board of Health adopt these resolutions in tribute to the memory of our late fellow member and distinguished colleague, John Nordham Johnson.

"The Board has lost other distinguished and valued members. None is more genuinely mourned both as to personal loss and as to the loss of his wise counsel than is Dr. Johnson.

"By his death the Board has lost a beloved associate and a great personality. Dr. Johnson was a member of the Board of Health for fifteen years, having served as vice-president since 1934. To the work and deliberations of the Board he brought a keen mind, a fine background of scientific knowledge, insight into the health needs and opportunities in our State, and enthusiasm and vigor in supporting the cause of public health and the activities of the State Board of Health. His memory and influence will remain as an inspiration to those who worked with him.

"Resolved further, That a copy of these resolutions be spread upon the official minutes of the State Board of Health and that a copy be sent to Mrs. Johnson that we may extend to her and to the members of the family this expression of our sincere sympathy and our heartfelt condolence.

"W. T. Rainey, M.D.

"G. G. Dixon, M.D.

"Paul E. Jones, D.D.S."

JANUARY 30, 1947. There was an emergency called meeting of the State Board of Health held Thursday, January 30, 1947, at 4:00 p.m., in the auditorium of the Laboratory of Hygiene.

Dr. S. D. Craig, President, was delayed but was present for the Hearing before the Appropriating Bodies that evening.

The meeting was called to order by Doctor Dixon, Vice-President. Secretary Reynolds explained that the purpose of the meeting was to review data that was to be presented to the Appropriating Bodies of the

House and Senate—the Hearing to be held at 8:00 p.m. on the same evening. In the budget request, the Secretary said that he hoped to secure some reconsideration of budgetary needs, and to secure some upward revisions, especially as it relates to Venereal Disease Aid, Nutrition and State Aid to Counties. He then read, for the Board's approval or disapproval, the data that had been prepared.

There followed a general discussion of the various items requested, after which the meeting adjourned for the members to be present for the Hearing before the Joint Committee on Appropriations in the Revenue Building at 8:00 p.m.

MAY 14, 1947. The annual meeting of the N. C. State Board of Health was held, as required by law, on the second day of the annual meeting of the Medical Society of the State of North Carolina, Cavalier Hotel, Virginia Beach, Virginia, May 14, 1947, with President Craig, presiding.

The reading of the Minutes of December 19, 1946 and January 30, 1947 was postponed for lack of time.

Doctors Craig and Haywood were requested to prepare suitable resolutions on the passing of Dr. Paul P. McCain, and that a copy be sent to Mrs. McCain, the press and a copy filed in the Minutes of the State Board of Health.

A summary of the status of the ringworm epidemic of the scalp in Alamance County was presented by Dr. Reynolds. The report showed that the disease had appeared in several other localities of the State, and is being combated through treatment clinics.

Secretary Reynolds presented to the Board for consideration, a new State contract and method of paying travel allowance for local health departments. This evoked a lively discussion, and culminated in a motion by Doctor Large, seconded by Doctor Dixon, that six cents (6c) per mile and five dollars (\$5.00) per diem be allowed. This was amended by Doctor Dixon, seconded by Doctor Large as follows:—if any money remained in the travel account, such money is to be prorated among those traveling over 1,000 miles per month. The amended motion was carried.

Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering, appeared before the Board and presented a new set of rules and regulations defining summer camps and their operation,—a copy of which regulations had previously been sent to each member of the Board. Doctor Dixon made a motion, seconded by Doctor Haywood, that the old regulations be revoked and the new regulations be adopted. The motion carried.

The Secretary presented some amendments to the Communicable Disease Regulations as follows:

REGULATION 21. This regulation would make it unnecessary to report diphtheria carriers unless clinical signs were present. This regulation was defeated on motion of Doctor Ward, seconded by Doctor Dixon.

REGULATION 34 AND 58, requiring the reporting and isolation of meningococcus contacts were modified to the effect that such contacts need not be isolated provided they are treated.

It was moved by Doctor Dixon and seconded by Mr. Jackson, that the immunization of children against pertussis be performed before six months of age. Motion carried.

Secretary Reynolds presented a request from the Director of the Division of Vital Statistics for consideration of the Board regarding appointment of health officers as local registrars of vital statistics in their respective health jurisdictions. After discussion, a motion was made by Doctor Dixon, seconded by Doctor Large, that health officers shall be appointed to act as local registrars of vital statistics. This motion was carried.

The Secretary presented a resolution for consideration by the Board for the sale of the Jefferson Street Plant of the Laboratory of Hygiene provided the proceeds from the sale should be made available to the State Laboratory of Hygiene for debt service. After discussion, it was moved by Doctor Large, seconded by Mr. Jackson, that the Old State Laboratory of Hygiene plant on West Jefferson Street be sold to the highest bidder. Motion carried.

The next order of business was the election of a Secretary and State Health Officer. A motion was made by Doctor Ward, seconded by Doctor Dixon, that Dr. Carl V. Reynolds be re-elected for a new term of four years. This motion was carried unanimously.

Doctor Reynolds discussed with the Board the advisability of appointing an assistant to the State Health Officer. After some discussion, Doctor Reynolds was requested to try to find a suitable man for this position, and to report to the Board at its next meeting.

It was moved by Doctor Haywood, seconded by Doctor Dixon, and unanimously carried, that Dr. George M. Cooper be appointed Assistant State Health Officer.

On motion of Doctor Haywood, seconded by Doctor Dixon, a request is to be made that the salary of the State Health Officer be increased to \$10,000.

The matter of furnishing penicillin to indigent cases was brought up by Doctor Nolan and discussed but no definite action was taken.

There being no further business, the Board adjourned to meet with the Conjoint Session of the Medical Society for the purpose of hearing the State Health Officer's annual report.

Pursuant to the above motion, the following resolution was sent, as requested, to Mrs. Paul P. McCain, Sanatorium, N. C., June 28, 1947, and copy filed in the Minute Book:—

*“Resolution of Respect for Dr. Paul Pressly McCain*

“Paul Pressly McCain lost his life in the service of his state and of the people whom he loved. No man in the history of North Carolina has held the affection and confidence of the people more than he. Our humblest

citizens as well as the ones of the highest station have been the beneficiaries of his healing art. His skill as a physician in his specialty had won him national recognition.

"His ability as an administrator of a large hospital system was so outstanding that others set it up as their ideal and tried to attain it as their goal. His very presence inspired love. There was a spirituality, a gentleness and an uprightness about him that distinguished him above other men. His humanity knew no bounds of race, color or creed. In his own simple fashion and without outward show and with becoming modesty he walked among us as a man and worked with us as a leader and a physician.

"His life was a noble example of all that is good. We are better men for having had Paul McCain as our friend. We mourn his loss and revere his memory. To his wife and his family we extend our deepest sympathy.

"For the North Carolina State Board of Health.

"Hubert B. Haywood, M.D.

"S. Douglas Craig, M.D."

JUNE 27, 1947. As the result of letters having been received from numerous Health Officers throughout the State expressing their disappointment at the travel resolution adopted by the State Board of Health at its meeting at Virginia Beach, Virginia, May 14, 1947, it was suggested by Dr. S. D. Craig, President of the Board, and Dr. John LaBruce Ward, member, and I, Carl V. Reynolds, M.D., as Secretary,—call a meeting of the Executive Committee, to discuss and review again the resolution for the proposed State contract and method of paying travel allowance, also to consider the various communications received in regard to same.

The Executive Committee consisting of Dr. S. D. Craig, President, Dr. W. T. Rainey, Dr. Hubert B. Haywood and Dr. G. G. Dixon, Vice-President of the Board, was called for and met on Friday, June 27, 1947, at 9:00 a.m. in the office of the Secretary.

After a full discussion, the Executive Committee decided to recommend re-consideration of the motion that "6 cents per mile, \$5.00 per diem be allowed," and to further recommend for adoption by the full Board the following:

"A. \$25.00 per month depreciation on car with 3c per mile for earned travel. Proposed change to allow \$25.00 per month for depreciation, and the remaining money budgeted for individual's travel to be paid at 4c per mile earned travel.

"B. Those counties which may elect to do so can now pay 5c per mile for earned travel with no depreciation. Proposed change is to allow earned travel to be paid at the rate of 6c per mile with no depreciation by those counties electing to follow this option."

This agreement, if approved, will be for a term of one year.

A letter was sent to each member of the Board on June 28, 1947, asking for their approval or disapproval, at the earliest possible moment, as the contracts were pending.

Dr. Dixon, desiring a 6 or 7-cents per mile, without any car depreciation allowance, dissented. I think it only fair to make this statement, as a matter of record.

JULY 25, 1947. The State Board of Health held a regular quarterly session Friday, July 25, 1947, at 10:00 a.m., in the auditorium of the State Laboratory of Hygiene, with President Craig, presiding.

The meeting was called to order and the Oath of Office was administered to Dr. G. G. Dixon, who was re-elected as a member of the Board by the N. C. Medical Society,—term expiring in 1951, and to Mr. Jasper C. Jackson, who was re-appointed to the Board of Health by the Governor,—term expiring in 1951.

Mr. J. M. Jarrett was present, and stated that in preparing the "Rules and Regulations Governing Sanitation of Private Hospitals, Sanatoriums, Sanitariums and Educational Institutions" that an error had been discovered in the manuscript in that it contained the trade name of a bactericidal agent, "Roccal," which should have been omitted. Dr. Dixon made a motion that in said rules and regulations, under the heading of "Satisfactory Compliance," paragraph 13 of Item 14, the sentence reading as follows: "The glasses are washed by motor-driven brushes in the first vat, rinsed in warm water in the second vat, and subjected to effective bactericidal treatment in the third vat, which contains hot water at 170 degrees F., chlorine, Roccal, or equivalent effective means of bactericidal treatment,"—that the word "Roccal" be deleted. Motion seconded by Mr. Jackson, and carried.

Minutes were read of the meetings of the Board on December 19, 1946 and January 30, 1947, both being approved as read.

In reading the Minutes of the Board meeting at Virginia Beach, Virginia, May 14, 1947, it was discovered that Dr. Nolan's motion relative to furnishing penicillin to indigent cases was stated incorrectly, and is hereby authorized changed. Dr. Haywood moved that the Minutes be corrected in the making and passing of the resolution to read as follows:—"That the Secretary be instructed to contact the Governor and Federal authorities to try to get an appropriation for purchasing penicillin and streptomycin to be made available, through the health departments in North Carolina, for the medical indigent and charity cases. Motion seconded by Mr. Jackson, and carried. After this correction, Minutes of May 14, 1947, were approved.

The Minutes of the called Executive Board meeting of June 27, 1947 were read and approved.

Secretary Reynolds stated that in response to the letter sent out June 28, 1947 as to the action of the Executive Committee in regard to the travel resolution, the following voted as approving:—Doctors Nolan, Ward, Jones, Haywood and Jackson. Whereupon Dr. Jones moved and Dr. Haywood seconded that the following be made official:

"A. \$25.00 per month depreciation on car with 3c per mile for earned travel. Proposed change to allow \$25.00 per month for deprecia-



tion, and the remaining money budgeted for individual's travel to be paid at 4c per mile earned travel.

"B. Those counties which may elect to do so can now pay 5c per mile for earned travel with no depreciation. Proposed change is to allow earned travel to be paid at the rate of 6c per mile with no depreciation by those counties electing to follow this option." Motion carried.

Dr. Dixon referred to a recent meeting of the Board (May 14, 1947) regarding the appointment of health officers as local registrars of vital statistics in their respective jurisdictions, and stated that he thought the doctors of the State should be notified by the State Board of Health to send in their birth and death certificates to the local health departments instead of to local registrars where the Health Officer is registrar. Secretary Reynolds stated that he would have this done immediately if the matter had not already been attended to.

A motion was made by Dr. Dixon and seconded by Dr. Rainey, that Dr. G. M. Cooper be earnestly requested to proceed with the writing of a history of the N. C. State Board of Health; and, that the Secretary of the Board be requested to provide sufficient assistance. Motion unanimously carried.

The subject of a triple diphtheria, tetanus and pertussis vaccine was brought up before the Board. Dr. Dixon made a motion that the Director of the Division of Laboratory of Hygiene be directed to produce a triple diphtheria toxoid, tetanus toxoid and pertussis vaccine. Motion seconded by Dr. Nolan, and carried.

Secretary Reynolds and members of the Board discussed, in general, the shortage of professional personnel due mainly to not being able to pay salaries commensurate to qualifications, training and responsibility. After the discussion, it was decided to have a conference with the Governor, which was secured for the afternoon.

NOVEMBER 13, 1947. The State Board of Health met in regular quarterly session, Thursday, November 13, 1947, at 10:00 a.m., in the auditorium of the State Laboratory of Hygiene, with President Craig, presiding. The meeting was called to order and the Secretary read the Minutes of the Board meeting of July 25, 1947, which were approved as read.

Referring to a motion made at the July meeting concerning an appropriation for the purchasing of penicillin and streptomycin for distribution to the indigent and charity cases, Secretary Reynolds reported that this subject had been investigated and such an appropriation was impractical at this time, and could not be obtained.

The Secretary read a memorandum from Dr. C. P. Stevick, Acting Director of the Division of Vital Statistics, with reference to the motion made at the last meeting of the Board relative to vital statistics procedures in appointing health officers as registrars. Dr. Stevick stated that the procedure of consolidation was going forward as fast as arrangements

could be made as there was a great deal of work to be done. Arrangements have to be made for rerouting fees to be paid by commissioners for registration; local registrars have to be notified of their termination, and clerical workers of health departments have to be instructed in registration procedure, etc. However, the work is going forward as rapidly as possible.

Oath of Office was administered to Dr. John LaBruce Ward, Asheville, N. C., re-elected as member of the Board by the North Carolina Medical Society—term expiring in 1951.

Secretary Reynolds discussed a request for a proposed ordinance received from the City of Asheville to permit boating on the new City water supply lake. No action was taken, but the matter was left to the State Health Officer and the Director of the Division of Sanitary Engineering to prepare recommendations for the control of various types of impounding basins and other water supplies.

Secretary Reynolds presented the following amendment to Regulation 32 of the Regulation of the North Carolina State Board of Health Governing the Control of Communicable Diseases (Malaria) by adding the following paragraph:

"9. It shall be the duty of all local health officers to enforce the provisions of this regulation. Authorized representatives of the North Carolina State Board of Health and local health departments shall have authority at all time to enter, for the purpose of inspection, the premises upon which water has been impounded or upon which it is proposed to impound water. Any person who shall hinder or prevent any authorized representative of the North Carolina State Board of Health or a local health department in the performance of his duty in connection with this regulation shall be guilty of a violation thereof."

On motion of Dr. Nolan, seconded by Dr. Ward, the above amendment to Regulation No. 32 of the Regulations for the Control of Communicable Diseases, was unanimously adopted.

Secretary Reynolds read the following resolution pertaining to appointment of Health Officers as local registrars of vital statistics:

"WHEREAS, the collection of vital statistics is generally accepted as a necessary and essential part of public health work and,

"WHEREAS, it is essential that complete and efficient registration of births and deaths be carried out in order that adequate public health records be maintained and,

"WHEREAS, the registration of vital statistics by township registrars has been found to be generally incomplete and inefficient in North Carolina and,

"WHEREAS, in those counties of North Carolina where Health Officers have previously been appointed registrars of the entire counties, the collection of vital statistics has been definitely improved,

"NOW, THEREFORE, under authority granted the State Board of Health in Section 130-72 and 130-74 of the General Statutes of North Carolina the following Health Officers are hereby appointed local registrars of vital statistics in their respective health jurisdictions, effective on such date or dates as may be specified by the State Registrar:

"Dr. Cameron F. McRae, Avery-Yancey-Mitchell; Dr. S. V. Lewis, Bertie; Dr. Eleanor H. Williams, Onslow-Pender; Dr. S. J. Phillips, Pitt."

Dr. Rainey moved that the above appointment of Health Officers as local registrars be adopted. Motion seconded by Dr. Jones, and carried.

Dr. G. M. Cooper, who has been Acting Director of the Cancer Control Division, was present and reviewed the program for the Division of Cancer Control, giving the preliminary plan for setting up the Division in the State Board of Health which was adopted by a joint meeting of representatives of the State Medical Society, the North Carolina Division of the Field Army, American Cancer Society, the State Board of Health and the U. S. Public Health Service. The objectives of the plan and the administration of same were discussed in general. He further stated that the Board had been unable to secure a competent professional director for the Division and therefore no specified constructive work has been accomplished. However, Dr. Cooper reported that he has carried on some activities of cancer control as best he could with his other duties and responsibilities. It is the hope of the Board that a director for the Division can be secured at an early date.

Dr. Hamilton appeared before the Board and discussed various types of biologics and vaccines prepared by the Laboratory of Hygiene for distribution.

Dr. Jones suggested that in the future, when possible, that a copy of the agenda for the Board meetings be forwarded to the members.

FEBRUARY 24, 1948. The State Board of Health met in quarterly session, Tuesday, February 24, 1948, at 10:00 a.m., in the auditorium of the State Laboratory of Hygiene, with President Craig, presiding. The Secretary read the Minutes of the Board meeting on November 13, 1947, which were approved as read.

Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering, appeared before the Board and presented revised "Rules and Regulations Governing the Sanitation of Meat Markets and Abattoirs." These revised regulations include frozen food lockers and poultry processing plants. A copy of these regulations had previously been sent to each member of the Board. Dr. Dixon questioned the following items in the poultry processing plant regulations:—walls and ceilings of smooth impervious material, ventilation, drawing and dressing tables of metal, picking machine in separate room, smooth floors, and temperature of water for scalding. These points were discussed further with Mr. Jarrett. Dr. Dixon moved that the revised "Rules and Regulations Governing the Sanitation of Meat

Markets and Abattoirs" be tentatively adopted with a six months period for revisions to be made before becoming effective. This action was seconded by Dr. Jones, and was unanimously adopted. Mr. Jarrett was requested to present findings of special survey with recommendations, to the Board at its May meeting.

Mr. Jarrett also presented an Order to the Town of Spring Hope, North Carolina, to extend their sewer system and have the needed sewerage works facilities placed in operation, under suitable supervision, as soon as possible. He stated that the problem of sewage disposal in Spring Hope had been investigated, and it was found to be insanitary and inadequate. After discussion, Dr. Jones moved that the Order to the Town of Spring Hope to install a sewage disposal plant, "without undue delay", etc., be approved. Motion seconded by Mr. Jackson, and carried.

Secretary Reynolds discussed the "North Carolina State Board of Health Communicable Disease Control Guide with Suggested Nursing Procedures—1948." On motion of Dr. Haywood, seconded by Dr. Jones, this Guide was unanimously adopted. Copies had previously been sent to each member of the Board.

The Secretary presented an amendment to Regulation 21 of the Regulations of the North Carolina State Board of Health Governing the Control of Communicable Disease (Diphtheria) by adding the following words to paragraph "P":—"except that reporting shall not be required." On motion of Dr. Ward, seconded by Dr. Dixon, the above amendment to Regulation 21 of the Regulations of the North Carolina State Board of Health, was unanimously adopted.

Secretary Reynolds presented "Policies of the North Carolina State Board of Health for Allocation of State Aid Funds to Local Health Units"—fiscal year beginning July 1, 1948. Mr. Jackson moved that the "Policies of the North Carolina State Board of Health for Allocation of State Aid Funds to Local Health Units for the fiscal year beginning July 1, 1948," be adopted. Motion seconded by Dr. Dixon, and carried.

The Secretary presented a proposed program for the Cancer Control Bureau of the North Carolina State Board of Health. The plan is to have a Detection Clinic where individuals go and are given a 5-point examination. Cancer suspects are then sent to the Diagnostic Clinic the same day. This program is to start on March 1, 1948, with seven clinics. The clinics are to be located in the largest cities. On motion by Mr. Jackson, seconded by Dr. Ward, this proposed program for cancer control in North Carolina, was unanimously adopted. (Copy of proposed cancer control program filed with Minutes).

Secretary Reynolds discussed the North Carolina State Employees Association. He stated that from the information he had this Association was to be non-political, and an organization to get the influence of all State employees to build up personnel, salaries, etc. It would have no connection with the labor organizations. The Board took no action on this matter.

Secretary Reynolds discussed the possibility of securing an emergency room at Dix Hill for neurosyphilitic patients. This matter was discussed, but no action taken.

The Secretary also reported to the Board the lack of personnel of the North Carolina State Board of Health. He stated that Dr. W. P. Jacocks, Director of the Bureau of Nutrition, will resign effective September 1, 1948. It is proposed that Miss Bertlyn Bosley, Ph.D., will take his place. Dr. T. F. Vestal, Director of the Bureau of Tuberculosis, and Dr. Robt. F. Bell, USPHS, Field Director of Tuberculosis, have resigned. There are 16 vacancies for health officers throughout the State. Doctor Ward moved that the Board appoint a committee of three, including the President, to confer with State officials regarding general salary increases in an effort to increase personnel. This motion was seconded by Dr. Jones, and carried.

Due to Dr. Jacocks' resigning, Dr. Haywood moved that the Board draft proper resolutions setting forth appreciation of his services to North Carolina. And, that this resolution be signed by all members of the Board. This motion was seconded by Dr. Ward, and carried.

President Craig read Dr. Reynolds' letter of resignation as Secretary and State Health Officer, effective June 30, 1948, or as soon thereafter as a successor could be appointed. President Craig stated that this letter showed Dr. Reynolds' big heart, big mind, and love for humanity. Because of Dr. Reynolds' resignation, Dr. Dixon moved that the Board express to him its sincere appreciation for the work that he has done with, and for the Board of Health, and for North Carolina as a whole, during the past thirteen years as State Health Officer, and that it is with sincere regret that they accept his resignation. Motion seconded by Dr. Haywood, and unanimously carried.

Dr. Nolan moved that the President of the North Carolina State Board of Health offer the position of Secretary and State Health Officer to Dr. Thomas Parran, Surgeon General, United States Public Health Service. Motion seconded by Dr. Haywood, and unanimously carried.

MARCH 31, 1948. There was a special called meeting of the North Carolina State Board of Health held Wednesday, March 31, 1948, at 10:00 a.m., in the auditorium of the State Laboratory of Hygiene, for the purpose of electing a Secretary and State Health Officer to take the place of the retiring Health Officer, Dr. Carl V. Reynolds, June 30, 1948.

President Craig called the meeting to order, and called on Dr. Hubert B. Haywood, Chairman of the Nominating Committee, to present his report. Whereupon Dr. Haywood addressed the Board as follows:

"Gentlemen:—A difficult task confronts us in the election of a Health Officer for North Carolina. It is with deep regret that we learn that Dr. Carl Reynolds will resign as of the 30th of June, 1948. His record is unsurpassed in the country. Our relations with him have been those of mutual understanding and confidence.

"Your committee has had a difficult task. We have thought it best to submit to you the names and qualifications of all the physicians for whom consideration is asked by their friends and colleagues.

"As Chairman of this Committee, I have tried to get into form the credentials of the men whose names have been submitted to us.

"Three names stand out above the rest in the number of endorsements received and the biographical data furnished to us.

"It is my feeling that due consideration should be given to these endorsements before we attempt to vote for a State Health Officer.

"The following names have been received: Dr. J. W. Roy Norton, Dr. W. P. Richardson, Dr. M. B. Bethel, Dr. C. W. Armstrong, Dr. John J. Wright and Dr. J. Roy Hege. One out-of-State man, Dr. J. L. (?) Neale of Richmond, is clearly ineligible under our legislative Statutes.

"Dr. Craig our Chairman, will now designate the proper procedure in balloting for our new Health Officer.

"Your committee contacted Mr. Deyton, the head of the State's Budget Bureau, and he stated that he will not oppose the raising of the State Health Officer to \$10,000.00.

"I appreciate your confidence in electing me as Chairman of this important Committee.

"Very truly yours,

Signed:—"Hubert B. Haywood."

There were three nominations for the position of Secretary and State Health Officer: Dr. J. W. Roy Norton, Dr. M. B. Bethel and Dr. W. P. Richardson. Each received votes, but Dr. Norton received the majority; hence, a motion was made to make the election of Dr. Norton unanimous.

After the adjournment, the Board called on Governor R. Gregg Cherry and notified him of the election of Dr. Norton, which the Governor approved.

MAY 5, 1948. In accordance with the General Statutes of North Carolina, the State Board of Health held its annual meeting at the same time and place of meeting as the State Medical Society,—The Carolina Hotel, Pinehurst, N. C., Wednesday, May 5, 1948, at 10:00 a.m. The meeting was called to order by President Craig, and Minutes of the Board meeting of February 24, 1948 and also the special called meeting of March 31, 1948, were read, and approved.

The Secretary commended, most highly, the work being done by Dr. I. M. Procter in the Cancer Control Program, and stated that to date County Medical Societies had approved the cancer control plan in New Hanover, Buncombe, Forsyth, Mecklenburg and Guilford Counties.

Dr. Reynolds reported that he had contacted Dr. David A. Young, General Superintendent of Mental Hygiene, and that Dr. Young had agreed to have an emergency room provided at mental institutions for neurosyphilitic patients. Also, Dr. Reynolds stated that Dr. Wm. A. Smith had been secured as Director of the Bureau of Tuberculosis, effective as of June 1, 1948, and that Dr. H. L. Quickel was Acting Director temporarily.

Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering, was present as requested at the Board meeting of February 24, 1948, to report on findings of a special survey of poultry plants in the 100 counties. He gave a full report of the survey, and stated that on the basis of findings that a number of changes and deletions had been made in the tentative regulations which he had formerly presented. After a discussion of these changes and proposals, Dr. Ward moved the revisions of the tentative "Rules and Regulations Defining Abattoirs, Meat Markets, Frozen Food Lockers, Poultry Processing Plants, Meat, Processed Poultry", etc., be adopted. It was also requested that copies of the revised regulations be furnished each member of the Board for their review and approval. Upon receiving mailed ballots approving these regulations, they will become effective six months from the date of February 24, 1948 when they were first presented. Motion seconded by Dr. Dixon, and carried.

Mr. Jarrett also presented a request from the City of Winston-Salem, N. C., to allow fishing on the Winston-Salem water supply lake. The necessary resolution from the Board of Aldermen and copy of regulations adopted by the City of Winston-Salem, have been reviewed and meet the requirements of the State Board of Health's regulations governing the sanitation of watersheds. Motion was made by Dr. Rainey, and seconded by Dr. Dixon, that fishing be permitted on the Winston-Salem water supply lake in accordance with the regulations adopted by the City, and approved by the State Board of Health. Motion unanimously adopted.

Secretary Reynolds read a letter dated April 30, 1948 addressed to the North Carolina State Board of Health from the Zachary Smith Reynolds Foundation, Inc., of Winston-Salem, relative to the contribution of \$25,000 annually made by the Foundation to the State Board of Health since 1943. The contribution was made to this "department to be used by Dr. Carl V. Reynolds, the State Health Officer, for salaries of certain doctors needed in the V. D. control work of the State whom he could not secure and hold at the salary ranges allowed under the State regulations. This gift was renewed annually for four years, and the administration of the fund was left largely to the discretion of Dr. Reynolds under the Foundation's original stipulation." Also in this same communication was the statement that "the Foundation knows that Dr. Reynolds, as State Health Officer, has worked for some years at a salary cut and as he leaves office, the Trustees of the Foundation would like for \$2,000 of the remainder of this fund to go to him as a special honorarium in recognition of the fine service he has rendered North Carolina in V. D. control work. We, therefore, would like to make the suggestion that the Board use \$2,000 for that purpose." The letter also stated that it was agreeable to the Foundation that the balance of the fund be used in the employment of able directors working in the V. D. control program. Secretary Reynolds suggested that the incoming State Health Officer be allowed to use this fund to supplement salaries in the V. D. control work,—just as he has been doing,—to retain directors in that activity. Dr. Jones moved that funds from the Zachary Smith Reynolds Foundation, Inc., be transferred and used according to the contents of the above mentioned letter. Also, that the wishes of the Trustees of the Foundation in that Dr. Reynolds, as State Health

Officer, be issued a check of \$2,000 of this fund as a special honorarium in recognition of the fine service he has rendered North Carolina in V. D. control work, be granted. Motion seconded by Dr. Haywood, and unanimously carried.

There being no further business, upon motion duly made, the meeting adjourned to meet with the Conjoint Session of the Medical Society for the purpose of hearing the State Health Officer's annual report.

CARL V. REYNOLDS, M.D.

Secretary and State Health Officer.



**ANNUAL REPORT**  
**NORTH CAROLINA STATE BOARD OF HEALTH**  
**to**  
**CONJOINT SESSION STATE MEDICAL SOCIETY**

CARL V. REYNOLDS, M.D.,  
Secretary and State Health Officer

VIRGINIA BEACH, VIRGINIA  
May 14, 1947

It is a far cry from the seventies, when Dr. Thomas Fanning Wood, of Wilmington, caught a vision of the possibilities of public health work in North Carolina and began the task of tediously translating that vision into terms of service that has saved the lives of countless thousands, down through the ensuing decades.

Doctor Wood's vision never left him; under its influence, he worked through the Medical Journal, of which he was the editor, until his efforts reached the people of the State in concrete form in 1877, when the General Assembly created the North Carolina State Board of Health, the twelfth such Board to be established in the United States.

There is also a tremendous gap between the sum of \$100, which was the first annual appropriation voted the State Board of Health after its creation by the Legislature, and the millions now being spent on Public Health in North Carolina.

During the fiscal year of 1934-1935, when it became my privilege to enter upon my duties as your State Health Officer, around \$821,578 was spent including a State appropriation of \$303,933 and around \$517,645 from the counties, the U. S. Public Health Service, the Rockefeller Foundation, and other sources.

During the present fiscal year, which ends the 30th of next month, the magnificent amount of \$5,337,183 is being spent for all Public Health purposes in North Carolina, State and local, of which only \$558,434 is coming from Legislative appropriation, the rest from the Federal government, the counties and philanthropies. Included in this grand total are the following amounts: Federal appropriation, \$1,643,935; Reynolds Fund and Rockefeller Foundation \$164,895; counties, \$1,839,549. Included in the grand total also is the sum of \$1,026,870 for carrying on what is known as the EMIC Program for the wives and babies of service men, this being Federal money channeled through the State Board of Health and spent under rules and regulations adopted by the State Board of Health.

Pitiful, isn't it? It would seem that the appropriating bodies of the Federal Government think better of health and its value for and to the citizens of these United States than our State appropriating body thinks of the health of our people here in North Carolina. This is, indeed, a sad commentary and we should busy ourselves to correct it. In contrast with

the State appropriation for Public Health, which has shown only a paltry increase with the passing years, the amount available for highways this current fiscal year, is \$57,800,000, while \$38,610,706 is the amount of estimated expenditures for public schools. These are worthy causes; they are essential to the progress of our people. North Carolina set a startling example for the entire nation when it took over the total cost of operating its public schools and highways on a Statewide basis.

When, I ask, will North Carolina show the same wisdom in its Public Health preventive program that it has shown in financing its public school program and its highway program? Are not the lives of our people worth an effort which is more commensurate with what the State is doing to develop the intellects of its children and the convenience of those who use the highways? This question will never be answered until the State is aroused to a sense of its duty in this respect and acts accordingly. The place to begin is with those you elect to the Legislature. It is a grass roots problem, after all. Think that over!

The State has lost \$200,000 a year, by reason of the transfer of Reynolds Foundation's funds to Wake Forest College. To compensate for this loss, the 1947 Legislature, after much pressure, voted to supply \$175,000 a year, an amount not only less than what we lost, but allowing for no expansion of the Venereal Disease Program, which has distinguished North Carolina throughout the nation and the World.

The record of public health in North Carolina vindicates the vision of Doctor Wood and the performance of those who have carried on through the years, in the field of preventive medicine, to which public health is dedicated. It has not attempted to invade the field of curative medicine, except in the case of the indigent and the underprivileged who could not pay for medical services, and its efforts to afford mass protection against contagion, an undertaking that cannot be entered into by the private practitioner of medicine, who looks to public health as does the laity, to attack the spread of contagious diseases in the name of the people from whom it derives its support.

The decline of controllable and preventable diseases during the decades that have marked the history of public health in North Carolina is a testimonial that cannot be overlooked.

### SOME CONCRETE EVIDENCES

What are some of these diseases and to what extent have they been controlled, prevented, or even eradicated? We shall consider just a few in passing. Printed tabulations have been made covering the period from 1914 through 1946. In 1914, the death rate from diphtheria in North Carolina was 15.8 per 100,000 inhabitants, and the following year it rose to 22.1. In 1939, the year compulsory immunization became operative, the rate was 4.8, while last year it was only 1.4. Observation of the immunization law is not supported or enforced as it should be, for if it were, diphtheria would be as rare as smallpox, from which there has seldom been a death in many years. In this regard, we should be embarrassed.

Whooping cough now has been placed in the preventable class, and for that reason immunization against it during the first year of life has been made compulsory. From that juvenile disease enough children died in 1914 to make the rate 18.7 per 100,000 population. The 1946 rate was only 1.5.

What has been done in the way of typhoid fever control, which now amounts almost to eradication, speaks for itself. You are all familiar with the two weapons with which this has been done—immunization and sanitation. In contrast with a death rate from typhoid fever of 35.8 per 100,000 population in 1914—and 22.2 in 1918, the second year of our participation in World War I, the death rate last year was only 0.3 per 100,000 population. The number of deaths was only 10 for the entire twelve months.

With the battle only really begun in earnest, we are winning in our fight against tuberculosis. A subsequent report will show what we are doing in our case-finding program, and we will not discuss that in detail in this preface, but the death rate from all forms of tuberculosis in North Carolina last year was only 27.9 per 100,000 population, as compared with approximately 140 in 1914.

I might go on and name other victories that have been chalked up by preventive medicine, with which most of you, my fellow physicians and co-workers, are familiar. As we often point out for the information and benefit of the laity, there are two forms of medicine, curative and preventive. The successful promotion of both must rest upon a working and workable realization that these are interdependent, and that the success or failure of one means the success or failure of the other. We all are familiar with the truth of this statement also.

Both curative and preventive medicine must be blended into one pattern, or over-all plan of caring for and rehabilitating our people, and making both medical care and hospitalization available to all who need them regardless of their economic, or wage-earning status,—and regardless of their religion, color, or social status. The whole is made up of its parts in humanity, as well as in mathematics dealing with inanimate objects. Medicine and public health must adhere to an intense love for humanity as their motivating power. Without that God-given virtue, we would all fall far short of achieving the aims of the noble profession to which we have dedicated ourselves as travelers over this mundane sphere.

Our motto should be "service before self."

### COOPERATION NECESSARY

And so must our body politic, through its chosen representatives, be advertent to the needs of humanity, if we are to emerge into those higher realms of usefulness, based on the inescapable fact that, no matter what our argument may be, we are our brother's keeper. I have expressed this conviction throughout my years in the practice of medicine and as State Health Officer, and I restate it now, in this post-war period, when adjustments are being made in the hope of freeing humanity from those things that have meant physical, mental, and spiritual enslavement.

I have often referred to the various Legislative bodies—Federal, State and Local—as entities, and this, possibly, is as it should be, for I am a firm believer in local and community self-government, in so far as the interests of one section do not conflict with the basic rights or interests of another.

While the several Legislative bodies to which I have referred function under the regulatory statutes that govern them—after all this is a country of laws, not men—yet all these bodies are primarily interested in the moral, mental, physical and economic well-being of their constituents—that is, in the citizenship in its entirety and in all its relationships. This, added up, means the health of the citizens.

To maintain their entities, and to grow in usefulness, they must act in partnership with other agencies dedicated to the same principles, whether they be Federal, State or Local. They must act with unanimity, and must be free from petty jealousies and from a single veto power. A minority group should never control.

Funds coming from the three sources and appropriated for a common purpose should be administered by the agency to which the money was appropriated, for the common good, whether dispersed among needy groups or utilized for mass protection. Such funds should not be controlled by a veto of any one of the agencies to which reference has been made. That is to say, for example, that money appropriated and allocated by Federal agencies for State or local purposes should never be allowed to revert, unused, through arbitrary or negative action on the part of any State or Local Law-making, or regulatory, body. This is "penny-wise and pound foolish." It is good economy to spend a dime to get a dollar—but what logic is there in the principle of rejecting a good horse rather than buy a bridle?

It was apparent in the Legislature recently adjourned that any bill—even though as vital to the State's well-being as that which called for a uniform and safe standard for milk, which provided for State supervision in case of violation, was promptly killed. Is that as it should be? Is that democratic? Does it reflect the voice of the people, or the influence of pressure groups? "Expediency" is the one thing of which we should be delivered in this critical day, when humanity needs so much.

Our own Legislature has adjourned sine die, and, in all probability, for two years, leaving unpassed not only the uniform milk bill, giving the State Board of Health the duty of protecting all the people of the State against milk-borne diseases, but also other measures, which, under the pretext of avoiding "bureaucracy," it yielded to pressure groups. This was especially true of the uniform milk bill, which never got out of committee and which, under the rules of the Legislature, was never given the opportunity of being debated on the floor of either branch.

#### SHORT-SIGHTED "EXPEDIENCY"

While the Legislature did give us \$175,000 a year in place of the requested \$350,000 to carry on an adequate venereal disease program, this was a curtailment. Not a penny was appropriated for nutrition. The com-

mittee turned thumbs down on a measure that would have provided for the sanitary regulation of swimming pools, and with equal secretiveness and lack of open debate, the bill for supervision of water and sewage treatment plants suffered a premature death, as did that dealing with sanitation in our public schools.

Therefore, my colleagues of the medical profession, YOU are faced with a definite responsibility. You must join hands with the practitioners of preventive medicine in the mass protection of our people. The State Board of Health was born of your wisdom and has been nurtured by your support, given through those you have elected to serve on the State Board of Health. Yours is the responsibility of helping to educate those of the communities in which you serve in the necessity of safe milk and the other things which the Legislature turned down for the sake of "expediency," hiding behind the skirt of "bureaucracy," which has never existed in the State Board of Health and which never will, I am convinced. This organization is dedicated to much higher purposes than that of seeking to impose its will arbitrarily upon the people, in any effort to stifle local self-government.

#### WE MUST CONQUER "PRESSURE GROUPS"

We must envisage a future in which pressure groups will have no place, when operating in conflict with the common good and with mass protection. In our home communities is where we wield our greatest power. We should use this power by sending men to the Legislature who will not yield to pressure groups, and who will not pigeon-hole or block the passage of measures designed to benefit all the people, in every section of the State. If our foresight in choosing our representatives were as keen as our hindsight in appraising their shortcomings, this would be a distinct contribution to progress—certainly to public health progress in North Carolina. It behooves us to bestir ourselves, individually and collectively, to make this State free to engage in constructive efforts which will serve all our people and not simply minority groups, whose interests certainly can never counterbalance those of the entire population.

We have extensive Federal grants coming into North Carolina, unhampered, which are reverting, for lack of coordination and cooperation in compensation. We are unable to employ qualified personnel, when the money would be available, because of arbitrary rulings and an unwillingness to allow rates of pay commensurate with the services of those whose talents might be available to us. There must be some way found to correct this deficiency.

#### WE MUST ADJUST OUR THINKING

We must adjust our thinking. We must realize that health is our greatest asset; that it is purchasable, and that, in financing it, we are following the path of economy. It is far more economical to make investments in health, than to save our paltry dollars to sacrifice on the altar of sickness. We must become personally interested in this matter. We, constituting the medical mind, must guide and direct. We must take the lead, or we will find ourselves following others down the path to physical decadence. By taking the lead, we will be benefited instead of being enslaved.

There is a close fraternal relationship between the United States Public Health Service—the principal Federal Government Agency with which we have to deal—and the State agencies, and on down through the local agencies. All this, without dictation from the Federal Government, as to the use of funds in approved plans.

To keep this close relationship, there should be a reciprocal relationship coming out of State and local agencies. All of us pay taxes—Federal, State and Local, and it is destructive to our public health structure, as well as expensive, to see funds revert to other states because we have not the broad vision and foresight to utilize them. It is, I say, “penny wise and pound foolish,” and a policy that can find no measure of justification among those who believe in progress.

I shall not attempt, in this brief message, to enumerate the various activities of your State Board of Health in detail, as these will be filed with you for your leisurely perusal and study, and later given to The Health Bulletin, which your Board publishes monthly, in the interest of the people of North Carolina, in their relation to Public Health. These facts, which are chronicled in detail for your information, will be at the disposal of more than 60,000 readers of The Health Bulletin.

I believe that the rank and file of our people are conscious of their medical needs and appreciate their importance as basic in life's plan. I think this was fully demonstrated in the past Legislature when, no matter what the views of the Legislators might have been as individuals, they, as representatives of a free and insistent people, were forced to ignore the pleas of the minority group, which made a desperate but vain effort to scuttle it, and passed the hospital and medical care program which had been worked out by some of the best minds in our State. This was, indeed a forward step; and if those who saw, for example, the need for uniform standards in providing safe milk for our people could have mustered sufficient strength and interest, there would have been a different story to tell. Instead of the black chapter of defeat that was written by a legislative committee, the story would have been one of glowing triumph for those fighting for the babies, the aged, the ill—and other consumers of milk in North Carolina.

#### WE MUST FACE THE EAST

We must turn our faces to the east; we must face the rising sun of the new day upon which we are entering, with faith, and courage and hope—and if we are defeated—God forbid—then we must go down fighting. That has been my message during the years that I have served as your State Health Officer; that is my message today. Away with appeasement, fear and all such things that hamper progress. We must look ahead; we must profit by past mistakes, and we must turn past defeats into victory for the future.

Respectfully submitted,

CARL V. REYNOLDS, M.D.,  
Secretary and State Health Officer

**ANNUAL REPORT  
NORTH CAROLINA STATE BOARD OF HEALTH  
to  
CONJOINT SESSION STATE MEDICAL SOCIETY**

CARL V. REYNOLDS, M.D.  
Secretary and State Health Officer

PINEHURST, NORTH CAROLINA

May 5, 1948

I come before you today to give a final accounting of my stewardship in a position to which I was called on November 10, 1934, namely that of your State Health Officer. In this brief foreword, I shall attempt to give you a broad picture of the expansion of Public Health in North Carolina during the intervening period, and I wish it understood, at the outset, that I claim no personal credit for the gains we have made, for it truly represents an outstanding example of organization at work, with a united purpose and a determination to succeed.

My custodianship must be appraised in the light of history, by impartial judges. My administration as your State Health Officer has not been without its mistakes. It is human to err; but I have, under God, sought to fulfill my obligations without fear or favor, and without any thought of self-aggrandizement. I love North Carolina; I love its people. They are my people, sprung from the same sturdy stock. And when, very shortly, I shall disappear over the western horizon, in search of rest and relaxation, I shall carry with me those blessed memories which can never be erased by geographical change, or by time's ruthless hand.

In this, my last report to you, I shall endeavor to cover, and that very briefly, only the highlights of the past fourteen years. The details have been chronicled in the permanent archives. I have often wondered just what the yearly reports have meant to you and to others with whom copies have been filed. I am afraid they have, all too often, been pigeon-holed, without having been studied. But let me ask you to read the annual reports herewith attached,—reports which will not be read by me at this time. I think you will find running through them a sincerity of purpose, and a record of real accomplishment, in spite of the handicaps under which the State Board of Health has been laboring,—including salaries too low to secure and hold those best fitted to do a tremendous job. Loyalty and patriotism are fine attributes; but we cannot overlook the axiom dating back to Bible times that “the laborer is worthy of his hire.” We must have the essentials of life and retirement protection, whether we be doctors, nurses, sanitarians, or technicians; and when the State declines to pay a salary commensurate with services rendered, the worker often feels he or she must seek other fields of service.

I could wish for my successor in this office no greater accomplishment than that he might be able to secure for those responsible for carrying

on the activities of the State Board of Health salaries commensurate with their training and ability, and in keeping with what they might earn in private work.

The growth of Public Health activities in North Carolina during the period for which I am reporting to you at this time, from a standpoint of investment, is reflected in figures which I have caused to be compiled.

Total expenditures for the fiscal year of 1934-1935 amounted to \$285,944, as compared with \$2,814,937 for the fiscal year of 1946-1947, while total expenditures over this entire period amounted to \$21,291,268.

Of this total, only \$5,903,777 has come from State appropriated funds; \$2,199,632 from philanthropic and other funds, and \$13,187,858 from Federal funds. I have omitted the odd cents in each instance.

And so, you see, large sums have been invested in Public Health in North Carolina. You will note the contrast between what the State Legislature has given us and what has come from the Federal Government, to say nothing of the large amounts that have come from such philanthropic agencies as the Reynolds Foundation, the Rockefeller Foundation, and other sources. When our Legislators in Raleigh become as Public Health conscious as those in our National Legislature, then we may expect to go forward with greater strides; and when State Budget officials are willing to let our professional and other trained workers have the salaries to which they are entitled, then we may expect to get and to hold trained public health personnel.

It is a strange commentary that, even when funds are allotted to North Carolina by Federal and other agencies, they are not allowed to be paid in salaries commensurate with services rendered, even though these funds cost us nothing and revert when unused.

Funds appropriated by the Legislature or allocated by the Federal Government should be administered by the Executive head of the department to which they are given, and he should be held responsible for the application of these funds and the results obtained. This is something for you to think over, as physicians, as well as public health minded citizens; for, after all, the State Board of Health is the child of organized medicine.

I suggest, therefore, at this point, that the Medical Society of the State of North Carolina urge its Legislative Committee to press for larger appropriations for public health in this State, by our own Legislature. In doing this, you will not only be advancing the cause of public health, but vindicating the purposes for which the Medical Society created the State Board of Health, through Legislative enactment.

Federal funds first became available in the fiscal year of 1935-1936, since which time we have received millions in allotments, as shown by the preceding summary. From these allocated funds, the doctors and hospitals of North Carolina have received millions of dollars for services rendered—money which, otherwise, would never have been received by them. This has been true especially in the EMIC and kindred programs, including



work for crippled children. This money that has been earned by our doctors and hospitals—channeled through the State Board of Health—has not been in the nature of State medicine, contract practice, or anything that smacks of what is commonly known as socialized medicine—but SUPPLEMENTAL medicine, meaning funds that have supplemented, rather than taken the place of, what these doctors and hospitals would have received, if the recipients of the benefits had been forced to draw on their own resources. Many would have been without these services, and the doctors and the hospitals without these supplemental funds, had they not been made available through public health.

Expenditures for any cause must be justified, or the effort nullified. What have we gotten for what has been spent? Even though these expenditures were made over a period that embraced depression, war, and finally, inflation, I think that every dollar has brought results. Much more could have been used to great advantage.

At this point, let us summarize, briefly and concisely, the expanded activities of the North Carolina State Board of Health over the past fourteen-year period, for which I, quite naturally, feel a sense of responsibility, as the administration of affairs was incumbent upon me during the years for which this general report is being made.

We cannot go into detail as to any of the objects mentioned, although I shall discuss some of these briefly during the further rendition of this report.

Here are some of the outstanding accomplishments to which I am happy to refer at this time:

Organization of the North Carolina School of Public Health—Nursing and Dentistry—at Chapel Hill.

An intensive campaign against venereal diseases, which placed this State in the forefront for the entire nation.

Procurement of the first Negro doctor ever employed by any State Board of Health, for full-time services—and the resultant expansion of health activities in behalf of our Negro population.

Promotion of the Crippled Children's activity, and its resultant benefits to thousands of young folk throughout the State.

Establishment of relations between North Carolina and the National Foundation for Infantile Paralysis, during the epidemic of 1944, which ushered in a new day for the allocation of funds to States without red tape, and the hospitalization, medical and delayed surgical care of victims of infantile paralysis.

Eradication of mosquitoes in large areas, resulting in bringing the malaria death rate to practically zero.

Experiments in the eradication of flies, as well as mosquitoes, through the use of DDT, thus setting an example for the entire nation.

Establishment of the School-Health Coordinating Service, which promises to be a fertile field for promoting good health ultimately among all the school children of North Carolina, through the processes of health education, screening, referrals, etc.

North Carolina pioneered in the field of Public Health Education, and set the pace for others to follow in this tremendously important field of public health endeavor.

Erection of a new \$350,000 State Laboratory of Hygiene, the debt for which is being amortized by earnings from the Laboratory, together with the new farm as an adjunct to the Laboratory, which saves the people of North Carolina an estimated two and a half million dollars a year.

Work in the field of sanitation has included the erection of approximately a quarter of a million sanitary privies throughout the State, this having minimized the spread of intestinal disorders; water pollution control has been beneficially carried on, and the control of rodents has saved many hundreds of thousands of dollars in damages formerly attributed to these pests, although much remains to be done in this important field. After we made the survey that disclosed 400,000 insanitary privies, we were able to follow up with the erection of more than 200,000 of the sanitary type, in cooperation with the WPA. While this gave me the title of "Prime Minister of the Privy Council," I considered it an honor, and the safe privies a suitable monument to Public Health Endeavors—even as the title, "Vice Commissar," during our intensive war on prostitution, lost its facetiousness in the realms of service. "We eradicated our 'Typhoid Mary'," I reasoned, "so why not apply the same treatment to 'Syphilitic Sue?'"

The establishment of a Bureau of Tuberculosis Control, which already has launched a mammoth case-finding program, designed to locate, finally, every case of tuberculosis in North Carolina, through chest X-rays, more than a quarter of a million of which already have been made.

The setting up of a Bureau of Cancer Control, under competent medical direction, which will be a powerful factor in the detection and cure of cancer in the early stages, and in the promotion of research designed to further the fight against this arch-enemy of mankind.

Expansion of industrial hygiene activities, designed to protect a large segment of our population against diseases due to dust hazards.

Establishment of the North Carolina Academy of Public Health, the first in the entire United States.

Creation of a Bureau of Nutrition and participation in the organization of the State Nutrition Committee, which has won an important place in the State's nutrition and food conservation program.

I consider among the most significant advances in public health during the fourteen years I have been privileged to act as your State Health Officer, the expansion of full-time local health units throughout North Carolina. In 1934, according to the records, there were only thirty-nine

counties organized on a full-time basis with medical direction, and eight others had full-time services from a nurse or sanitarian working alone, a practice which the Board no longer approves.

As of December 31, 1947, ninety-six of the one hundred counties in North Carolina had developed some type of local health service. This is an increase of one hundred and forty-six per cent, to say nothing of the increase in population served. Alexander and Henderson were the ninety-fifth and ninety-sixth counties, respectively, which established the services in July, 1947.

Indeed, we may fairly say that, but for the difficulty of securing personnel, it is likely that all of the one hundred counties could be organized now on a full-time basis. The actual service rendered in the ninety-six counties during 1947 was not operated on a full staff basis, due to a serious shortage of professional personnel, particularly physicians and nurses.

As of December 31, 1947, there were 890 full-time budgeted positions with 79 full-time vacancies. Of this number, 16 were full-time health officer vacancies and 38 were public health nursing vacancies.

Our venereal disease control program now emphasizes largely the treatment of early syphilis in the two rapid treatment centers, located at Charlotte and Durham. Private physicians have referred many cases to these centers, as well as local health departments. During the calendar year of 1947, for example, total admissions to the two centers were 9,001. As of December 31, 1947, since the two centers were opened, 33,856 patients have been admitted. Practically all of the gonorrhea cases have been treated outside the centers, either by private physicians or local health departments.

Until 1937, 6,000 cases comprised the largest number ever reported. This previous high was doubled in 1937, more than tripled in 1938, and then in 1939, we received reports totaling 30,985 cases, an all-time high.

In December, 1937, the Zachary Smith Reynolds Foundation, Incorporated, announced that the income from a \$7,000,000 trust fund would be turned over to the State Board of Health, and the first check, for \$100,000 was turned over to the State Health Officer. At that time, this was the largest amount of money that had ever been donated in the South to preventive medicine.

Time will not permit a detailed recital here, but the records of the State Board of Health's fight against syphilis, placing it in the forefront among all American States, is and will remain a matter of record. Through July 1, 1947, a total of considerably more than four million tests had been run through the State Laboratory of Hygiene, including 552,714 voluntary serological tests among selectees when the draft law became operative in 1941.

I might add in this connection that the entire picture was given by your State Health Officer, in a paper on the progress of the fight against venereal disease in North Carolina, presented in Charlotte, April 20, 1948, the occasion being Social Hygiene Day.

In this fight against venereal disease, every step should be taken looking toward securing the cooperation of sources outside the health department; namely, private physicians, hospitals, institutions, and the armed forces.

Too much emphasis cannot be placed on the importance of follow-up campaigns, and efforts to locate all contacts, in order that the disease may be attacked at its source. We should redouble our efforts to refer every applicable patient to a Rapid Treatment Center. With the State Laboratory's diagnostic serological service open to all, regardless of their status in life; with the State Legislature's passage, in 1919, of the law requiring compulsory treatment; with the State Board of Health's regulation for the serological testing of food handlers; with the passage, in 1937, of the State law requiring the serological testing of domestic servants; with the pre-marriage and pre-natal laws now on our statute books, with our supporting knowledge and equipment, we should not falter by the wayside, but should gird our loins and not be satisfied until we have eradicated venereal disease from the face of the earth.

When the future of our program was endangered by the withdrawal of the Reynolds Fund and its transferral to an educational institution, the last Legislature was prevailed upon to provide an appropriation which will insure our continuation of the fight already so successfully waged.

We might go on, from one achievement to another, in reviewing the work of our State Board of Health, since its establishment. At times, the path has been hard and rugged; at others, good sailing winds blew our way and sent us on apace.

In reviewing some of the things that have been accomplished during the time it has been my responsibility to serve as your State Health Officer, I have chosen the period of 1934-1947 to render an account of my stewardship, which I should do before retiring from office at the end of next month.

I have undertaken not to burden you with details, but simply to give an overall picture of the work as it has passed in review before me. I claim no credit for what has been accomplished, but I do take pride in the progress our State has made in its general health and I give whatever credit is due to those who have labored so faithfully and well.

May I give you just this general summary as my final word in this report to you? It is a comparison of the crude death rate and the rates from specific causes, as reported in 1934 and 1947, the last year for which figures have been compiled:

	1934	1947
Crude death rate, per 1,000 population .....	10.5	7.8
Infant mortality, per 1,000 live births .....	77.9	35.4
Maternal deaths, per 1,000 live births .....	7.5	1.8
Diphtheria, per 100,000 population .....	6.4	0.9
Malaria per 100,000 population .....	2.4	0.05
Pellagra per 100,000 population .....	13.2	1.1
Tuberculosis per 100,000 population .....	61.2	25.4
Typhoid fever per 100,000 population .....	2.1	0.4

In closing this, my final report to the Conjoint Session, I do so in a spirit of humility, with a full realization that much remains to be done—great tasks for other and younger hands to take up and carry forward.

I am not saying goodbye. I shall never do that—but, to use an expression which always denotes anticipation of another meeting, “au revoir.” I’m a Tar Heel born; a “mountain-white” bred, and when I’m dead I’ll be a Tar Heel and a mountaineer dead. “Tempus fugit.” It waits on no man; nor can I longer wait to obey the call of my only “chick” in far-off California. The call of the daughter and her family has become increasingly louder with the passing of the last few years, and so I shall go for an indefinite stay—not to wait the “twilight hour,” but with my face ever toward the rising sun.

It is with a sense of deep gratitude and affection that I take this leave of you, my colleagues and friends—also with a sense of appreciation for the many kindnesses you have shown me while I have labored among you, as a practitioner of medicine and as a public servant. I thank you for everything.

My parting word is said in behalf of the young man whom the State Board of Health has elected to be my successor, Dr. J. W. Roy Norton. All I ask is that you give him the same consideration you have given me, plus the added facilities for service that will be available as time goes on—for we are living in an age of progress and improvement. To him, I shall shortly say: “Here it is Roy; take it—take the torch and hie you up yonder mountain, to place it on new heights, where its light will shine over a still wider radius.”

And now, again, “au revoir” and “God bless you every one!”

Respectfully submitted,

CARL V. REYNOLDS, M.D.,  
Secretary and State Health Officer.

## DIVISION OF PREVENTIVE MEDICINE

The personnel at the close of the period July 1, 1946 to June 30, 1948, was composed of one medical director, one consultant nurse for the Maternity and Infancy Department, one nutritionist, six specially trained staff nurses, one physiotherapist and two public health educators. The clerical personnel consisted of one senior accountant, one junior accountant, three senior stenographers, two junior stenographers, one senior general clerk, three junior general clerks, one senior addressograph machine operator, one multilith operator in charge of the special printing department, and one assistant multilith operator. In addition, funds were provided through this department for the employment of a varying number of workers in the Nutrition Division, Budget Office, the Laboratory, the Tabulating Unit, and School Health Coordinating Service.

Broadly speaking, the work of this division during the biennium covered the following activities: Participation in the Department of School Health Supervision with the School Health Coordinating Service, Health

Education, Maternal and Child Health Service, Crippled Children's Service, Midwife Control work in the unorganized counties, and the work of concluding the administration of what is known as the Emergency Maternity and Infant Care Program. The latter activity was a part of the war emergency service for the wives and infants of all servicemen of the lower four pay grades in all of the armed services who claimed medical and hospital care for maternity cases and infants under one year of age. Another responsibility of this division is the handling of medical correspondence, or strictly speaking, the personal health service of the Board. This service requires answers to all types of letters from citizens of the State who request information on all types of medical questions.

*Report of Cases Completed Under EMIC Program for the Period  
July 1, 1946 to June 30, 1948*

Maternity cases completed during period .....	11,140
Cases completed after delivery .....	9,789
Cases completed before delivery .....	1,351
Attended by Doctors of medicine .....	9,663
Attended by Midwives .....	126
Delivered in hospitals .....	9,191
Delivered at home .....	598
Cost .....	\$ 928,964.87
Average cost per case .....	\$ 89.67
Infant cases completed during the period .....	1,739
Cost .....	\$ 131,292.49
Average cost per case .....	\$ 75.44
Total Maternity and Infant cases completed .....	12,879
Total cost .....	\$1,060,257.36

**HEALTH EDUCATION:** There are four regularly employed workers in what is termed the mailing room of the State Board of Health. Supervision of this work is a responsibility of the Division of Preventive Medicine. A part of the duties of the employees of the mailing room under the supervision of the director of the Division of Preventive Medicine is to distribute the monthly issue of the Health Bulletin, now running as for several years more than 60,000 copies a month. This department also distributes specially prepared literature in the form of pamphlets, leaflets, booklets, etc., prepared by all of the departments of the State Board of Health and sent out to the public on request. This is an effort to reach the people who most need health instruction in some of our greatest problems. An effort has always been made in this department to get understandable literature into the hands of people needing such information in all parts of the State. As an illustration of the volume of work done by the mailing room service, the following tabulated list of some of the activities of the mailing room is submitted:

Literature distributed .....	2,480,403
New names added to mailing list .....	3,598
Names taken off mailing list .....	4,409

Addresses changed .....	344
Morbidity reports .....	72
Multigraph pages .....	161
Multigraph lines .....	1,596
Multigraph copies .....	456,603
Mimeograph pages .....	2,381
Mimeograph copies .....	922,777
Press articles .....	2
Envelopes addressed for press articles .....	808
Envelopes addressed for Engineering Division .....	2,064
Envelopes addressed for Central Administration .....	2,782
Envelopes addressed for Central Tabulating Unit .....	13,865
Envelopes addressed for Epidemiology .....	1,561
Radio talks .....	94
Envelopes addressed for radio talks .....	14,961
Envelopes addressed for Vital Statistics .....	400
Envelopes addressed for Local Health Administration ...	99

The following is a tabulation of the inspection of school children by one staff nurse:

Counties: Bladen, Caswell, Harnett, Robeson, Wilkes.

No. schools completed during period .....	136
No. children inspected .....	11,784
No. children found defective .....	6,474
No. children having defects:	
Hearing .....	26
Vision .....	750
Teeth .....	3,746
Throat .....	3,718
Breathing .....	2,215
Posture .....	51
Orthopedic .....	31
Skin .....	245
Other .....	930
No. children with tonsils removed .....	1,042
No. children 10% or more under average weight .....	1,552
No. children 20% or more over average weight .....	77
No. schools with oiled floors .....	5
No. schools with individual drinking cups or bubbling fountains of approved type .....	5
No. schools with approved type of toilets for both sexes...	5

**MATERNAL AND CHILD HEALTH SERVICE:** This service has been established in cooperation with the local health departments and operating for the last ten years with funds provided by the U. S. Children's Bureau under the Social Security Act. The Service suffered to some extent during this biennium on account of the scarcity of physicians due to war demands, and also to the scarcity of qualified public health nurses. However, the work has been maintained on a fairly satisfactory basis by the local health officers and such nurses and physicians in the various sections of the State

as could spare the time to keep this important branch of public health work operating. The standards of service rendered have been maintained and a detailed report of the activities of the maternity and infancy clinics follows:

Counties: Anson-Montgomery, Beaufort, Bertie-Chowan, Bladen, Cabarrus, Caswell, Catawba-Lincoln-Alexander, Cleveland, Columbus, Craven, Cumberland, Currituck-Dare, Davie-Stokes-Yadkin, Duplin, Durham, Edgecombe, Forsyth, Gaston, Granville, Greene, Halifax, Harnett, Haywood, Hertford-Gates, Iredell, Lenoir, Martin, Moore-Hoke, Nash, New Hanover, Onslow-Pender, Orange-Person-Chatham, Pasquotank-Perquimans, Pitt, Robeson, Rowan, Rutherford-Polk, Sampson, Scotland, Surry, Tyrrell-Washington, Union, Vance-Warren, Wake, Watauga, Wayne, Wilson, Yancey. Cities: Asheville, Greensboro, High Point, Rocky Mount.

Clinics 4561, physicians participating 200

<i>Prenatal Service</i>	<i>White Colored Indian</i>		
New patients .....	1,553	16,140	74
Old patients .....	4,456	28,683	75

Period of pregnancy at time of visit:

1st Month .....	240		
2nd Month .....	1,025		
3rd Month .....	2,583		
4th Month .....	4,445		
5th Month .....	6,551		
6th Month .....	8,236		
7th Month .....	8,884		
8th Month .....	8,503		
9th Month .....	4,470		
Wassermanns taken .....	1,915	15,066	74
Reported positive .....	39	1,204	2
Reported negative .....	1,326	13,624	67
Patients indicating presence of toxemic condition ...	125	914	
Positive Wassermann cases reporting institution for anti-syphilis treatment .....	47	1,348	1

*Delivery Service*

Patients assisted in securing necessary medical attention at delivery .....	563	537	1
Patients found necessary to hospitalize for delivery	305	1,007	1

*Postpartum Service*

Examined by physician .....	683	4,148	16
Discharged in normal condition .....	462	3,586	18
Referred for medical or surgical treatment .....	103	379	1
Women reporting delivery of living healthy child ...	1,005	8,036	437
Women reporting stillbirths .....	29	200	1
Women reporting death of child at delivery or during first month .....	23	190	10



*Infant and Preschool Hygiene Service*

Brought to center for medical examination:

New—Infant .....	4,213	13,436	23
Preschool .....	5,113	7,560	17
Old —Infant .....	7,917	20,214	29
Preschool .....	6,788	11,467	12
Normal in weight and nutrition—Infant .....	9,586	28,038	30
Preschool .....	6,410	13,850	20
Underweight for age and having malnutrition:			
Infant .....	565	1,497	14
Preschool .....	387	579	
Referred for treatment: Infant      Preschool			
Medical .....	1,042	666	
Surgical .....	384	299	
Dental .....	34	284	
Ocular .....	20	124	

Given preventive treatment against:

Smallpox—Infant .....	726	2,710	34
Preschool .....	8,082	8,146	916
Diphtheria—Infant .....	3,958	8,000	77
Preschool .....	6,788	8,737	213
Whooping Cough—Infant .....	4,448	8,857	62
Preschool .....	5,357	7,296	287

Reported having had:

Measles .....	269
Whooping Cough .....	414
Mumps .....	39
Diphtheria .....	65
Scarlet Fever .....	29
Diarrhea .....	173

*General Service*

Estimated numbers of pieces of literature distributed in centers, 91,815.

Prenatal and infant literature and midwives' supplies distributed from the mailing room:

Prenatal Care .....	24,795
Prenatal Letters .....	18,379
Prenatal Dental Letters .....	2,310
Expectant Mother .....	4,034
So You're Expecting a Baby .....	1,186
Infant Care .....	33,786
Baby's Daily Time Cards .....	99,520
Breast Feeding .....	10,568
Infantile Diarrhea .....	11,081
Tables of Height and Weight .....	12,684
Child from One to Six .....	13,309
Why Drink Milk? .....	12,489
Silver Nitrate .....	35,232

Silver Nitrate Order Cards .....	2,654
Baby Cards .....	7,400
Prenatal Registry Cards .....	3,600
Request Cards for Literature .....	8,541
Preschool Clinic Letters .....	23,074
Birth Certificates .....	2,033
Report Blanks for Nurses .....	609
Requisition Blanks .....	1,214
M & I Special Center Monthly Reports.....	5,207
Physicians Bills .....	7,217
Notice of Midwife Meeting .....	1,481

## Permits:

Grade A .....	1,743
Grade B .....	1,333
Grade C .....	1,062
Application for Registration .....	3,646
Instructions for North Carolina Midwives .....	2,194
1935 Midwife Law .....	1,078
Midwife Family Folder .....	636
Midwife Family Folder Form A .....	1,297
Midwife Family Folder Form B .....	1,070
Midwife Family Folder Form C .....	1,058
EMIC Forms .....	12,678
Planned Parenthood Reports .....	1,930

## Midwife Control Work by Staff Nurses:

Counties: Ashe-Watauga, Avery-Yancey-Mitchell, Bladen, Buncombe, Caswell, Cherokee-Clay, Cleveland, Hoke, Jackson, Lincoln, Macon, Madison, Randolph, Tyrrell-Washington, Wake, Wilkes.

No. midwife meetings held .....	49
No. physicians attending meetings .....	14
No. home visits made to midwives .....	265
No. registered midwives examined .....	261
No. new applicants examined .....	22
No. registered midwives given renewals:	
Grade A .....	34
Grade B .....	22
Grade C .....	12
No. midwives reporting regular use of silver nitrate drops ....	156
No. midwives claiming to report births promptly .....	153

Special Service of the Department of Maternity and Infancy: Free biologicals to local health departments. During this biennium an important feature of the work of this division has been to supply local health departments with immunizing vaccines and serums free of charge to health officers to use in their programs for the control of whooping cough and diphtheria. The State Board of Health for many years, due to the courageous foresight of Dr. Clarence A. Shore, Director of the Laboratory for nearly twenty-five years, has continued to provide free vaccines against smallpox and

typhoid fever and comparatively free anti-toxin with which to treat diphtheria. The Laboratory has not had sufficient funds to provide free toxoid or free pertussis vaccine. Hence the Children's Bureau has generously allowed the director of the division to budget several thousand dollars a year for the purpose of supplying this much needed prophylactic for the use of health officers anywhere in the State who desired to use it. For this purpose, during the two years of this biennium \$35,677 have been expended.

#### CRIPPLED CHILDREN'S SERVICE

As stated in the report published two years ago, the Department of Crippled Children of the State Board of Health has continued to suffer from a shortage of necessary workers in carrying on the program throughout the State. The biennium has been a period of hard work, with the increasing cost of travel and of every other item in the program. During the time covered by this report, namely the two years ended June 30, 1948, although it covers a period beginning nearly a year after the close of the war, the aftermath of the worldwide upheaval has had its effect on the departmental work. This has been felt in the general disarrangement of orderly procedures in medical practice and in hospitalization required for these patients. It has been just as impossible to secure the necessary personnel, especially professional workers such as physicians, nurses, medical social workers and physical therapists, as it was at any time during the war years. The medical social worker procured for a three months period about the close of the last biennium resigned early in this biennium and a successor to her was not available during this biennial period. There is still need in the Department for an additional physical therapist, at least one medical social worker and one additional nurse.

One new clinic was instituted during the biennium at Wadesboro which was inaugurated about the first of May 1948 on a monthly basis and for which this Department is financially responsible. This Department participates in a clinic set-up at New Bern, financed by the Vocational Rehabilitation Division of the State Department of Education, and a rather large percentage of children have been found in need of treatment in that area.

The cooperation of the orthopedists throughout the State in this work continues on a high level of sympathetic participation. A larger number of cases have been seen during this biennium than at any other previous time. More patients have been hospitalized and more work generally done. One of the serious handicaps this biennium, financially speaking, has been the excessive cost of hospitalization. During the last year of this biennium, hospital costs practically doubled for the State as a whole. Costs for appliances, such as artificial limbs, and so on, have also increased. The allotment of funds, however, from the United States Children's Bureau for the last year of this biennium was more than had ever been allotted before. The work of the office, of the general administration of the Department, has been on a satisfactory basis during the entire biennium. Correspondence has been kept up promptly, authorizations have been

issued, bills received from surgeons and hospitals have been paid promptly. The Director of the Division has worked without medical assistance during the biennium although having other pressing responsibilities in the general work of the State Board of Health, but with the aid of the other employees in the Division of Preventive Medicine, the work has been done with satisfaction to the orthopedists, the hospitals and the children who were the beneficiaries.

We have continued to receive the Duke Foundation one dollar per day per patient but in view of the very high cost of hospitalization this work has been greatly reduced in consideration of the total percentage. However, it is of material aid in the conduct of the work.

During the summer of 1947 a small epidemic of poliomyelitis occurred in several counties in the southeastern Piedmont section of the State and at the close of June this year a serious epidemic covering a great many more counties and attacking a larger number of patients than ever before from this disease was in full swing. The National Foundation for Infantile Paralysis assumed full financial responsibility for taking care of large numbers of the cases. This Department cooperated very closely as in previous years with the above-mentioned Foundation. The aid of the management of the Foundation in this State has been of tremendous help not only in the epidemics of the acute form of poliomyelitis, but in taking care of many of the old cases that frequently require constant supervision for several years after the acute attack has subsided.

As in previous years the Asheville Orthopedic Home has continued to render a very necessary service to the convalescent children throughout the western part of North Carolina. This Department has been able to assist them in caring for a rather large number of children at reasonably low rates during the entire period of the biennium. The cooperation from the officials of the Asheville Orthopedic Home has been satisfactory from every standpoint.

An increasing number of the county health departments are becoming interested in the work for crippled children of their area. Their nursing service through which they cover the county in many of the local departments is of great value to the work for crippled children in such counties. The close cooperation between the local welfare departments and the local health departments in a number of counties continues to prove of great value. One of the important links in discovering the crippled children who need the aid and the final hospitalization of many children under the care of competent orthopedists and plastic surgeons has been benefited a great deal by the cooperation of the trained case workers attached to most local welfare offices and the nurses of the local health departments in such counties. The fact is that this service is an essential contribution to the success of the work. All this local aid is appreciated and especially when the county health officer and the county welfare officer, themselves, manifest a sincere desire to aid in the work.

The cooperation of the orthopedic surgeons and of the qualified plastic surgeons continues to be invaluable. These highly trained specialists have rendered a distinct service to all the crippled children throughout the

State who need this aid and who have availed themselves of it. The service of these surgeons has been on a friendly and sympathetic basis which has gone a long way to make the work of this difficult class of surgery satisfactory to all concerned.

The cooperation of this Department with the Vocational Rehabilitation Division of the State Department of Public Instruction continued throughout the biennium on a friendly basis. This *Department* has worked closely with that division, especially in the field of physical restoration. This cooperation has been necessary to cover the overlapping of work for the children between the ages of 16 and 21. It is hoped that funds will continue to be available and that deficiency in personnel may be remedied early in the coming biennium.

#### REGISTRATION:

Registration is done only every four years and therefore as there was no change in the publication of figures for this year and that published previously, these figures are left out entirely and reference may be made to the biennial report covering the period of July 1, 1944 through June 30, 1946. After this year this deficiency will be corrected.

#### STATISTICS:

Table I  
State Clinics

1. Number of orthopedic clinics held .....	482
2. Number new cases admitted .....	7807
3. Number of old cases reexamined .....	5927
4. Number clients attending .....	13734
5. Number casts applied, removed or adjusted .....	1020
6. Number braces advised, measured, fitted or adjusted .....	432
7. Number dressings (applied or removed) .....	229
8. Number bandages (proprietary) or strappings advised or applied .....	218
9. Corrective shoes advised, applied, or adjusted .....	2260
10. Corrective exercises or massages advised .....	1010
11. Dietetic treatment advised (Include C.L.O.) .....	730

Table II  
Field Service

1. Office	
a. Number of staff conferences .....	36
b. Number of conferences with surgeons .....	727
c. Number of conferences with health officials .....	1323
d. Number of conferences with welfare officials .....	650
e. Number of conferences with official bodies .....	69
f. Number of conferences with non-official bodies .....	74
g. Number of other conferences .....	410
h. Number of talks .....	17
i. Number in attendance .....	263

2. Clinic	
a. Clinic attendances .....	446
b. Number patients contacted .....	15552
c. Number of instructions to patients .....	8125
3. Field	
a. Number of investigating visits .....	590
b. Number of new cases located .....	126
c. Number of home visits to new cases .....	154
d. Number of home visits to old cases .....	738
e. Number of new cases referred to clinic or surgeon .....	120
f. Number of old cases referred to clinic or surgeon .....	1086
g. Number of not home visits .....	138
h. Number of appliances adjusted .....	3
i. Number of exercises given or instructed .....	663
j. Number of therapies given or instructed .....	3
k. Number of cases referred to Vocational Rehabilitation .....	229

**Table III**  
Case Statistics of Major Services

1. General hospital admission authorization outstanding as of July 1, 1946 .....	452
2. General hospital admissions authorized during biennium .....	2374
3. General hospital extension authorizations issued during biennium .....	465
4. Crippled children under general hospital care July 1, 1946 ....	71
5. Crippled children admitted to general hospitals during biennium .	2023
6. Crippled Children discharged from general hospitals during biennium .....	1944
7. Total number of days care provided in general hospitals .....	33935
8. General hospital admission authorizations outstanding June 30, 1948 .....	552
9. Children provided convalescent or foster home care during biennium .....	269
10. Number of days convalescent care or foster home care provided during biennium .....	11860
11. Number of appliances purchased during biennium .....	437
12. Number of applications for general hospital care received and deferred as of June 30, 1948 .....	0
13. Number of applications for crippled children's services out- standing as of June 30, 1948 .....	468

### Recommendations

The Director of this Division may be going out of his way to look for trouble but nevertheless, in his opinion, some of the following measures should be adopted and put into effect for a more satisfactory administra-

tion of work for crippled children in North Carolina than has been heretofore available. It is simply the opinion of the Director and need not be considered a recommendation of the State Board of Health or of anyone else except the Director. The following are some of the suggestions the Director would like to see inaugurated:

**First:** There should be a branch of the State Orthopedic Hospital in the eastern part of North Carolina. Preferably this should be located in Raleigh.

**Second.** Until such an extension of the institution is provided the capacity in the hospital at Gastonia should be utilized to the last square foot instead of having part of the buildings closed up for lack of personnel to care for the many children who need to be hospitalized and provision should be immediately made for the employment of such personnel as is necessary to utilize the hospital to full capacity and, unless an eastern division is set up within a reasonable length of time, additional buildings should be provided.

**Third.** The same need exists and is more acute than ever for a home for convalescents in the eastern part of the State. This should certainly be in the neighborhood of Durham or Raleigh or Chapel Hill, now that the State Medical School on a four-year-basis is to be in operation there within a reasonable time. The reason for suggesting these places is the availability of both competent pediatric and orthopedic service as well as other types of high class specialist medical personnel on a consultation basis.

**Fourth.** The Department of Crippled Children of the State Board of Health should be enabled to expand its program by increasing the number of clinics held for children and increasing the number of general hospitals which would make satisfactory provision for offering acceptable service to these cases. This is particularly necessary in the entire northeastern section of North Carolina.

**Fifth.** There should be a more clear-cut line of demarcation, especially on the national level, to be applied on the State level which would outline the scope of service to be offered by the Crippled Children's Department of the State Board of Health on the one hand and the State Department of Vocational Rehabilitation on the other. There should be no overlapping problems and no conflict in the ages of the beneficiaries of the program of each department.

**Sixth.** Finally, one of the most important needs in view of the increasing cost of everything is more State appropriation of funds by the legislature of North Carolina directly to the Department of Crippled Children of the State Board of Health to enable it to thoroughly carry out the demands made upon it and to care for the large number of crippled children who might otherwise have the service denied.

## DIVISION OF SANITARY ENGINEERING

It is the responsibility of the Division of Sanitary Engineering to coordinate the sanitation programs and activities of the State Board of Health with local health units, with other State and local agencies, and

with agencies of the Federal Government. The Division is also responsible for the enforcement of State health laws and rules and regulations relating to sanitation.

The activities include all phases of sanitary engineering and sanitation, with the exception of Malaria Control and Industrial Hygiene, which are functions of other divisions. The activities covered are many, and vary considerably in nature, but may be enumerated mainly as follows:

1. Promoting the installation and safe operation of public and private water supplies.
2. Safe disposal of sewage and industrial wastes.
3. Sanitation of public lodging and eating places.
4. Promotion of safe milk supplies.
5. Endemic typhus fever control through the rat-proofing of buildings, DDT dusting, and rodent control measures.
6. Sanitation of meat processing plants.
7. The recruitment of local sanitarians.
8. The development of standard inspectional procedures.
9. The preparation and distribution of technical and informative bulletins relating to sanitation and sanitary engineering.
10. The enforcement of all State laws and regulations relating to sanitation, including the State Bedding Law.

### Administration

**Personnel.** During this biennium, it has been necessary to change the administrative organization of the Division, because of the changes in both qualifications and number of personnel.

The activities of the office are now divided into three main units; namely: Engineering, Sanitation, and Secretarial-Clerical. The enforcement of the State Bedding Law remains as a separate function because of the peculiarities of the program, itself, which does not allow its being combined very readily with other sanitary inspectional activities.

The turnover of personnel has continued to follow the pattern established during the past few years. During parts of this biennium, a number of key positions were vacant at various times, while at other times practically a full staff was employed. We have not been able at any time during the past two years, however, to employ persons for all positions budgeted. This has been mainly because of the fact that people are required with considerable experience and ability in the field of sanitary engineering and sanitation, and also because of the differential in State and local health department salary schedules. Such people as mentioned above receive more compensation in local units, and, therefore, are not interested in State employment. Considering the volume of work done by this office, and the great number of requests which are received from people throughout the State for assistance on all types of problems, the staff is not adequate to carry on this work, even though every position, as



presently established, is filled. We have not been able, therefore, to perform all of the services requested, and to carry out the type of program which we feel is most beneficial, and the type that is most wanted by the citizens of the State.

The constant turnover in local personnel also affects our program to a great extent, as we have attempted in the past to train and assist these new men with their duties as local sanitarians. It is hoped that the personnel will increase in quality, as well as numbers. When this occurs, we will be in a better position to serve as we should. It is estimated that we need, as a minimum, three additional sanitary engineers and two additional sanitarians. Should these positions be authorized, we would also need an additional secretary. The 23 persons employed by this Division at the present time, not including the Director, are assigned, according to work units, as follows:

1. Water, sewerage, typhus, and other engineering work:  
Six engineers, one inspector, one secretary.
2. Food, milk, and general sanitation, including shellfish:  
One engineer, nine sanitary inspectors, two secretaries.
3. Bedding Law enforcement:  
Two sanitary inspectors, one secretary.

### Legislation

An attempt was made to secure the following legislation during the bien-nium, but all bills relating to sanitation and sanitary engineering failed to pass. These three bills were:

1. To improve the laws relating to water supplies and operation of water and sewage treatment plants.
2. Law regulating the design and operation of swimming pools.
3. A State-wide Milk Ordinance under the supervision of the State Board of Health.

### Activities

The activities of the Division during the period covered by this report, and divided according to the work units mentioned above, were as follows:

1. **Engineering.** The practice followed for a number of years of assisting with Water Works Operators' Schools, or training courses, has been continued. These courses are given either by the University of North Carolina, or by North Carolina State College, in cooperation with the North Carolina Water Works Association, Institute of Government, North Carolina Association of Water Plant Operators, and the Division of Sanitary Engineering. Certificates are awarded those completing the course, and who pass an examination which is given on a voluntary basis by an Examining Board of the Operators Association. Since this program began in 1939, 312 certificates have been issued.

Assistance rendered consulting engineers and municipal and State officials has increased materially. This assistance mainly with water and sewerage problems, and review and approval of plans for new construction or renovations, is increasing each year and has reached the point where additional engineers are needed to perform this service. Not only have a great number of our water and sewage facilities deteriorated during the war years, because of lack of maintenance, and the inability on the part of municipalities to secure needed materials and equipment, but the increase in the population of a number of towns has made it necessary that utilities be enlarged or expanded. The municipalities, as well as the consulting engineers, are calling upon this office more and more for consultation service, and for assistance in connection with the development of plans for water and sewerage utilities. During the past two years, 238 plans have been reviewed and approved for water and sewerage developments.

The following new water supplies, water treatment plants, or major water works were either completed, or construction was begun during the past two years:

Angier — New iron removal plant  
Red Springs — Mid State Mills — Iron removal plant  
Hickory — Additions to water plant  
Landis — New water system  
Marshville — Water supply improvement  
Stanley — New water supply  
Mocksville — New water supply and filter plant  
Wingate — Water system  
Norwood — New water supply and filter plant  
Cherryville — Additions to water supply  
Denton — New filter plant  
Glen Alpine — New water supply and distribution system  
Matthews — New water supply and distribution system  
Lexington — Additions to water plant and elevated storage  
Burlington — Copeland Mills — Water system and filter plant  
Salisbury — Elevated storage and water improvements  
Asheboro — New impounding reservoir and pumping station  
Statesville — New water plant  
Greenville — Water plant additions  
Siler City — Water plant additions  
Lenoir — Water plant additions  
Charlotte — Water plant additions  
Mooresville — Water plant additions  
Norlina — New water system and new supply  
Davidson — Additions to water plant  
West Jefferson — Water supply additions  
State Fair Grounds — New water supply  
Roxboro — Additions to water plant  
Bynum — Odell Manufacturing Co. — New water plant  
Fuquay Springs — Additions to supply  
Jamestown — New plant and elevated storage

Burlington Mills — Neuse River — New water plant  
Pittsboro — New water plant

The following major sewerage improvements were made during the past two years:

Davidson — New sewage plant  
Shelby — Dover Mills — New sewage plant  
Cornelius — New sewage plant and system  
Morrison Training School — New sewage plant  
Aberdeen — New sewage plant  
Mt. Holly — Globe Mills — Sewage plant  
Fontana — Sewage plant  
Marion — Cross Cotton Mills — Sewerage system  
Stanley — New sewage plant and system  
Norwood — New sewage plant  
Louisburg — New sewage plant  
Winston-Salem — Duplan Corporation — Sewage plant  
Valdese — Sewage plant  
Old Fort — United Rayon Mills — Sewage plant

In addition to the above major improvements, a great number of towns extended their water and sewerage systems. There are now 310 public water supplies in the State serving 1,293,778 people. There are 309 sewerage systems. Two hundred and one towns have either primary or complete sewage treatment, and 108 discharge raw sewage into the streams.

The stream sanitation study, started early in 1946, was completed during the year and a report made to the General Assembly. This study and report resulted in a small appropriation being made to the State Stream Sanitation and Conservation Committee for stream pollution studies. This work has been continued during this biennium, and subsequent reports will be made to the Legislature. Although carried on by a separate agency, we are very much interested in this work and are closely related to the organization, the Director of the Division of Sanitary Engineering being Chairman of the State Stream Sanitation and Conservation Committee. The Federal Law passed by the 80th Congress, regarding stream pollution, will undoubtedly place much more work and responsibility on this Division.

Complete surveys and inspections were made of all interstate carrier watering points annually, as a part of our cooperative program with the U. S. Public Health Service. Sources of supply were also examined and certification made to the U. S. Public Health Service.

Special waste disposal problems for abattoirs and rendering plants were handled by the engineers, and specific recommendations made. The same also applies to a number of special studies made for small industries and institutions having particular industrial or other waste disposal problems.

The cooperative project between the State Department of Conservation and Development, the U. S. Geological Survey, and the State Board of Health has continued, and during the two-year period 194 chemical examinations have been made of municipal supplies. This work is an important activity, and is of distinct benefit to industry, and to the municipalities concerned.

The mobile laboratory equipped during the last biennium has been used for one shellfish survey and for special milk investigations, but it has been primarily used by the State Stream Sanitation and Conservation Committee on stream sanitation work. It is necessary that we recall this trailer for regular activities of this Division.

A great number of special investigations have been made of various sanitary engineering problems, mainly at the request of industry and municipalities. These were primarily in regard to proper sewage and waste disposal, swimming pool design, and peculiar operating problems of water and sewage plants. Assistance was also given in the cases of emergency caused by the breakdown of equipment, or because of floods.

A sanitary and bacteriological survey of the shellfish growing areas in New Hanover County was made to complete our report and information regarding our shellfish-growing areas in the State. Much progress is being made in developing new structures, and improving the sanitation of our shellfish industry. A number of acres remain restricted because of sewage pollution of these growing waters.

One new activity was taken on during this biennium that has required a considerable amount of time, but has been beneficial to the Medical Care Commission, and to others concerned. At the request of the Medical Care Commission, and with the endorsement of the U. S. Public Health Service, this Division was asked to cooperate in the inspection of hospital sites, review of plans submitted for new structures, and also to assist with the inspection of existing hospital facilities, where expansion programs under the Medical Care Commission were being considered. One hundred and thirteen inspections have been made of hospital sites, and all parties seem to be well pleased with the results obtained. We are particularly interested in this project, in that it affords us an opportunity to work with the architects and builders prior to the time that equipment is installed. It also helps to eliminate errors in planning and in construction, which might later be responsible for major sanitation defects.

The Typhus Control work has been expanded to include more general rodent control, and a program of garbage collection and disposal is also being developed as a part of this activity. DDT dusting for ectoparasites has also been made a part of this program during the past biennium, and the epidemiological studies and investigations indicate that this activity may be responsible for considerable reduction in typhus in this State. The typhus or rodent control activity has been incorporated in the Engineering Unit during the past year. It was formerly carried on as an independent activity. The results of the work accomplished, together with an estimate of the amount of money expended by local communities in rat-proofing projects, will be found in the numerical summary of this report.

Special engineering assistance was also given State institutions, and the Budget Bureau, with regard to water and sewerage problems. Our engineers cooperated with the institution officials, and with engineers of the Budget Bureau, in assisting with the design and location of water and sewage facilities for a number of these institutions. Our sanitarians have also worked very closely with the officials of the institutions in renovation

programs calling for the remodeling of kitchen and dining facilities, or where new units have been constructed for this purpose. Numerous requests have been received from the managers or superintendents of these institutions, as well as the architects employed to do this work. A considerable amount of time has been devoted to this activity, but we believe that it is definitely worthwhile, and that it indicates a willingness and an interest on the part of State institutions to improve their units in accordance with good sanitation practice.

2. **Sanitation.** All sanitation activities have been combined under the supervision of a Sanitary Engineer, during the past two years. Prior to that time we had three units; namely: milk, sanitation, and food and general sanitation. Shellfish sanitation, which was formerly in the Engineering Unit, was also placed in the general Sanitation Unit. This places all of our inspectional services of non-technical nature under one head, and makes for more efficient administration of the work of the office. These changes were made possible because of the improvement in qualifications of the directing personnel.

The one item in the field of sanitation which received more attention than others was milk. A great volume of work was done in surveying and studying the State milk program, the purpose being to try to find an answer to the many perplexing problems and questions relative to milk control work. The main points indicated by the survey were need for:

- (a) Uniformity of standards and enforcement
- (b) Laboratory facilities in local health units, and
- (c) Practical and uniform interpretation of the Code requirements.

A bill was prepared and presented to the Legislature, as previously mentioned, but failed to pass. The milk situation is still quite confused, and needs much more attention than we are in a position to give it at present.

Training classes for dairy and milk plant operators have been held in cooperation with the State College, the local health units, and the milk industry.

Certification of milk supplies used on interstate carriers has been made, at the request of the U. S. Public Health Service.

Technical assistance has been given the local health units having special milk problems, and sanitary surveys have been made of 154 milk sheds during the past two years, in order to supply information to those requesting it, and to assist local units in improving their dairies.

Special sanitary surveys were made of all the hotels in the State, with a few exceptions, because of the great number of complaints being received, and because the local health departments have shown a tendency to overlook hotel inspection and rating. A new filing system of card indexing was set up to enable us to keep information more readily available regarding the hotels in the State.

A special survey was also made of all poultry processing plants in the State, in order that complete information would be available to the members of the State Board of Health in preparing regulations for this indus-

try. This survey showed that for the most part the poultry processors had the necessary equipment, but that as a general rule the sanitation of poultry processing plants was very unsatisfactory.

Studies were made of existing sanitation regulations during the past two years, and revised regulations were adopted for meat markets, abattoirs, frozen locker and poultry processing plants, summer camps, and hospital and private institutions. Revision of other regulations is under consideration at this time, the object being to bring these regulations up-to-date and in line with improvements which have been made in modernizing equipment, and improvement in general knowledge of the subjects under consideration.

The program of assisting operators in foodhandling places, institutions, and hospitals has continued, and is proving very valuable. Many requests are now received for aid before places are renovated, or built. This enables us to help the operator plan what he wants and needs, and to give him the proper type of layout for equipment. We have been able in a great number of cases to save the operator money, and at the same time provide better working arrangements, which in the end insures the public better sanitation in foodhandling places.

Foodhandling courses for employees and operators of hotels, cafes, etc., have continued and we expect to expand this program. A number of courses, similar to those for public foodhandlers, have been started with regard to dairies and pasteurization plants. These courses so far have indicated considerable interest on the part of the dairy farmers and plant operators, and we believe that they will be very worthwhile.

Surveys were made of all State institutions, and reports submitted to the proper officials. Many improvements have been made, but inadequate buildings, insufficient personnel, and old equipment are a great handicap to most of the institution managers who are doing very well with what they have. As previously mentioned, a considerable number of requests have been received from architects and managers of State institutions for our assistance in helping them with design and location problems.

Progress has been slow with regard to private hospital improvements. We have found many of these institutions to be in need of change, but we realize, also, that we cannot close hospitals which are full of patients. The owners have not been conscious of needed changes, and this law needs more attention. Administration is difficult.

Surveys were made and assistance given to all summer camp operators. Much improvement has been noted in this field.

In preparing the revised regulations, special effort has been put forth to meet with interested groups and work out problems before the regulations were adopted. Such meetings were held with the Frozen Locker Association, the Poultry Processors Association, the North Carolina Hospital Association, and others. These have been of great benefit in helping each to understand the other's problems, and have made for more cordial relations.

The usual number of special nuisance investigations was made, and assistance was given to local health departments, wherever possible to do so.

Various members of the staff have at different times attended national and regional meetings, in order to keep abreast of what is going on in the field of sanitary engineering and sanitation.

3. **Bedding.** Two men carried on the routine work in enforcing the Bedding Law during the past biennium. No unusual problems developed. A summary of the inspectional activities may be found in this report.

### Conclusions

Progress has been made in the field of sanitation and sanitary engineering, even though we have been handicapped by insufficient funds and personnel to do what we are required to do by law, and requested to do by the citizens of the State. A constant turnover of personnel has affected the efficiency of our program, and has caused it to be changed many times. Demands on the part of the general public and industries involved have increased steadily, and much more work could be accomplished if personnel were available.

The greatest need of the Division is more competent personnel, and salaries which will attract and keep good men. More engineers are needed to assist the towns with operation problems on both water and sewage treatment, and the consulting engineers and architects with related problems of design and operation of facilities. Additional district sanitarians are also needed to assist local health departments, because of the many relatively new and inexperienced local sanitarians.

### Numerical Summary of Activities

#### Engineering

Public water supplies inspected	645
Institutional water supplies	77
Other water supplies	13
Public sewerage systems	343
Institutional sewerage systems	145
Other sewerage systems	73
Railway watering points inspected	108
Plans reviewed and approved	238
Plans prepared and distributed	187
Special investigations of water and sewage problems	287
Sand analyses	26
Complete chemical analyses of water samples	194
New well sites examined	48
Hospital sites inspected	113
FHA developments investigated	49
Swimming pool and outdoor bathing places	60
Premises dusted with DDT	97,201
Pounds of DDT dust used	113,334
Establishments rat-proofed	2,333
Cost to owners for rat-proofing above	\$155,656

**Sanitation**

Milk plant inspections	606
Dairy farm inspections	3,157
Local records checked	96
Milk surveys completed	154
Milk plant plans reviewed	67
Special investigations of milk	11
Laboratory inspections	74
Milk samples collected	3,008
Foodhandling places inspected (cafes, restaurants, and lunch and drink stands)	4,681
School lunchroom inspections	239
Abattoir and meat processing plant inspections	481
Meat market inspections	1,762
Frozen food locker plants inspected	78
Poultry plant inspections	214
Plans reviewed for foodhandling establishments	451
Schools held for foodhandlers	35
Private water supply inspections	234
Private sewage disposal inspections	526
Privy inspections	386
Summer camp inspections	82
County and State institutions inspected	103
Hospitals inspected	94
Educational institutions inspected	58
Public schools inspected	164
Hotels, tourist homes, and tourist camp inspections	733
Garbage disposal investigations	46
Complaints investigated regarding general sanitation	366
Shellfish plant inspections	2,243
Shellfish plant plans prepared	14
Retail seafood markets inspected	457
Water samples examined from shellfish-growing areas	364
Patrol inspections of restricted waters	51
Standard plans prepared by this office (distributed)	106
Number of FHA cases processed	1,238

**Bedding**

Retail places inspected	3,621
Manufacturing plants inspected	5,121
Pieces of bedding condemned	10,318
Prosecutions under the Bedding Law	6
Official conferences and meetings attended	171

**STATE LABORATORY OF HYGIENE**

In order to compare the work of the State Laboratory of Hygiene during the last two years with the activities which we have reported in the past, we must take into consideration the changes which have been made in both practices and procedures. In no other biennium during the history



of the laboratory have there been so many changes in biological products nor in the methods of administration as we have witnessed during the past two year period.

In the field of diphtheria immunization there has been a definite trend away from the diphtheria toxoid alum precipitated as a single antigen. If we were to judge the protection which immunization can give to diphtheria only by the amount of this toxoid used during the present period with that distributed during the period July 1, 1944 to June 30, 1946, we would have justifiable fears for the children of today. Only 19,512 — 10cc vials of alum precipitated diphtheria toxoid — or an amount sufficient to protect somewhat less than 100,000 children were distributed during the past biennium; whereas, 26,733 such vials were distributed during the preceding period. If we are to determine the possible number of persons protected against diphtheria, during the past two years, we must include those who received the diphtheria toxoid combined with pertussis vaccine—the product which increased with popularity tremendously — more than 23,000 — 10cc vials being distributed in the period 1946 to 1948; whereas, only 2,915 similar vials were distributed in the 1944-1946 period. We should also call attention to the fact that soluble diphtheria toxoid (Ramon) also helped protect our people against diphtheria and that an additional number of persons were protected with combined diphtheria-tetanus toxoids, and still others were protected with a triple antigen containing diphtheria toxoid, tetanus toxoid and pertussis vaccine. With the use of all these products a considerably larger number of persons were protected from diphtheria with State Laboratory of Hygiene biologicals. Our protection against diphtheria is also aided with the use of Schick Test material for determining immunity or susceptibility to diphtheria.

The smallpox vaccine figures need a word of explanation — During the period 1946 to 1948 a sufficient amount of vaccine was distributed to protect 553,900. This is a decrease from the amount distributed in 1944-1946, since in that period an amount sufficient to protect 621,950 was distributed. This decrease is due in part to difficulty which we experienced in the Summer of 1947 when three different lots of smallpox vaccine prepared by the State Laboratory of Hygiene were found to be lacking in potency and had to be discarded. For a period of about two months we had no smallpox vaccine available for distribution. A fresh supply of seed virus vaccine was obtained from another public health laboratory and potent smallpox vaccine was prepared in the laboratory and made available for use in a minimum period of time. Since starting the use of the new seed virus and the improvement of technical procedures in the preparation of this product, we have been able to distribute potent smallpox vaccine.

Again in the case of typhoid vaccine you will note by consulting the tables that there has been a marked reduction in the volume of typhoid vaccine distributed. This does not mean that a smaller number of people are now being protected—A wide-spread change in the practice of administering typhoid vaccine should explain this reduction. The policy of administering annual booster doses of typhoid vaccine, particularly when this booster dose is administered intracutaneously, decreases the amount of typhoid vaccine needed to protect an individual — 3/10 cc., 1/10 cc being

given each year over a period of three years — in place of 2½ cc. when the vaccine was given only every three years. We cannot state with any degree of certainty that there are as many people now receiving immunizing treatments of State Laboratory of Hygiene typhoid vaccine as there were during the previous biennium, but we are inclined to the opinion that as many, and probably a few more, were protected during the period 1946-1948.

There has been during the current biennium a slight increase in the amount of rabies vaccine distributed by the State Laboratory of Hygiene. The amount of increase is not alarming and does not necessarily mean that rabies is more prevalent than it has been.

A change in our pertussis vaccine has required us to alter the method of reporting the distribution of this product. During the previous biennium all of our pertussis vaccine contained ten billion organisms per cc. During the current biennium we continued to distribute pertussis vaccine containing the ten billion organisms and added another vaccine more concentrated in form — containing 20 billion organisms per cc. Consequently, during the period 1946-1948 we listed our pertussis vaccine as treatments rather than as 10cc vials. We still urge the administration of Pertussis Vaccine to very young infants, those between two months and four months of age. Most of our deaths from whooping cough occur in these young infants. They need the protection much more urgently than older children, even though they may not be able to produce immune substances as effectively as they would if they were older. The two months old infant ordinarily manifests no marked reaction to the administration of whooping cough vaccine. They can be given additional protection when they reach the age of nine months by giving them a combination of pertussis vaccine with diphtheria toxoid or by giving them a triple antigen containing tetanus toxoid, diphtheria toxoid and pertussis vaccine.

During the past year we discontinued the preparation of diphtheria antitoxin and have purchased this product from a commercial biologic manufacturer. The reasons for making this change in our policy were manifold — the most important being that marked improvements have been made in the methods of preparing diphtheria antitoxin. For the State Laboratory of Hygiene to prepare a product approximating the quality of that available through commercial biologic houses, we would have to make a considerable investment in equipment. Another reason is that the prevalence of diphtheria in North Carolina has decreased to the point where only a small amount of diphtheria antitoxin is needed to treat the disease. We were of the opinion that it would cost us more to prepare diphtheria antitoxin than we would be required to pay if we purchased it. If we continue to improve our program for the immunization of children against diphtheria, we will need less and less diphtheria antitoxin to treat those who are not immunized.

In spite of the fact that more tetanus toxoid is now being used for the immunization of persons against tetanus, we had more than a 30% increase in the demand for tetanus antitoxin. No satisfactory explanation for this increase is apparent.

During the previous biennium the State Laboratory of Hygiene undertook the distribution of Penicillin. When the price became more reasonable and it became more readily available through the regular drug channels, we discontinued the distribution of the product.

During the fall and winter of 1946 and 1947 we undertook the distribution of influenza virus vaccine. The price for this biological product is now less than one-half what it was when we started to distribute it. It is now also readily available through the drug trade. It is our intention to discontinue the distribution of this product for the same reason that we discontinued the distribution of penicillin, insulin and anti-venin.

The American Red Cross has assisted in promoting the health of our people in two different ways. First, they have made available human immune globulin which is used for the prevention of measles in those individuals whose physical condition is such that an attack of measles would greatly endanger their lives. These persons, of course, are protected only for a period of approximately four weeks. The chief use of immune globulin is for the production of attenuated measles. When immune globulin is given at the proper time after exposure, the person will develop a mild form of measles and develop life-time immunity to the disease.

Dried blood plasma is also made available in large quantities by the American Red Cross. We began the distribution of this product in 1946. During the current biennium we distributed more than 18,000 packages. The only cost of these products which the Red Cross makes available is the cost of transportation. It is sent to the State Laboratory of Hygiene — we pay postage or express charges and deliver the product to the hospital or physician. No charge is made against the patient for either of these products, although the physician or hospital can make a charge for their administration.

For years the State Laboratory of Hygiene has distributed a small amount of Rocky Mountain Spotted Fever Vaccine which has been donated to the State by the United States Public Health Service. During the Spring of 1948 we distributed more than 25,000 cc. of this vaccine or enough to protect more than 12,000 people. Since the United States Public Health Service makes no charge to us for this vaccine we in turn distribute it without cost to the Health Departments, hospitals and physicians of the State.

The examination of specimens of various types comprise the principal activity of the State Laboratory of Hygiene. The bacterial and chemical analysis of specimens of water has increased from 13,989 in 1944-1946 to 16,981 for the current biennium. This is principally due to the increase in the number of public water supplies in the State and also to the larger number of industrial supplies which have requested the services of our laboratory in an effort to safeguard their employees.

Although typhoid fever is decreasing in the State, the number of specimens of blood sent in for typhoid culture has increased to 7,200 during the current biennium as compared with 5,731 for the previous biennium. This increase is probably due to the fact that younger physicians are disposed to use laboratory services more frequently than are older physicians.

A glance at the statistical table will also reveal an increase in general blood cultures and a number of the agglutination tests.

Serological tests for syphilis continue to comprise a considerable volume of the work of the laboratory. During the current biennium 802,959 of these tests were performed in the State Laboratory of Hygiene. During the previous biennium 711,797 such tests were performed.

During the Fall of 1947 we adopted the policy of making titrated serological tests for syphilis for those physicians whose patients have been given Penicillin treatment for syphilis except those who have been treated in either the Eastern or Western Medical Centers operated by the State Board of Health. Patients treated in Rapid Treatment Centers should have their serology performed at one of these centers. We will also make titrated serological tests on infants suspected of having congenital syphilis.

Cultures for diphtheria decreased from 13,333 to 9,150.

The number of specimens of sputum examined for tuberculosis increased from 14,000 to 20,000.

The increase in the number of animal heads examined for rabies was from 1,671 to 2,030 — an increase which was not alarming.

There also was a marked increase in the examinations made for intestinal parasites.

The number of various types of examination of specimens totaled 972,973 for the period — July 1, 1946 to June 30, 1948. The number for the period July 1, 1944 and June 30, 1946 was 864,565.

Financially the laboratory apparently fared pretty well during the current biennium. As seen from the financial table we collected \$62,364.00 for biological products prepared in the State Laboratory of Hygiene as compared with \$52,115.00 during the period July 1, 1944 to June 30, 1946.

For biologics — bought and sold, we received \$26,189 for 1946-1948 and \$18,449 for 1944-1946, or a total received for biologicals of \$88,553 for the current biennium and \$70,564 for the previous biennium.

The receipts for fees — provided by law, for water examinations from public water supplies were practically identical for each of the two-year periods. During the previous biennium most of our delinquent water tax accounts were placed on a current basis. This increased our receipts for that biennium. During the current biennium practically all of our receipts were for services rendered during the biennium with very little coming in for delinquent accounts.

Our receipts for the sale of specimen containers increased about \$5,000 during the current biennium.

The receipts for the sale of animals more than doubled.

The total receipts from all sources during the period July 1, 1946 to June 30, 1948 was \$157,586 as compared with \$134,148 for the period— July 1, 1944 to June 30, 1946, our appropriation being \$200,301 for 1946-1948 and \$142,425 for 1944-1946.

Although our financial statement appears favorable, the figures themselves are misleading. Most of our troubles during the past biennium have been financial, even though we have been able to meet our interest payments on our building bonds and retire outstanding bonds according to schedule. None-the-less we greatly underestimated the marked increase in the price of supplies and equipment needed to operate the laboratory. We did not have sufficient money authorized to provide salary increases which would keep pace with the marked increase in the cost of living. We have been confronted, therefore, with very perplexing problems which in these times money alone could solve. In spite of these handicaps we feel that the State Laboratory of Hygiene has rendered a good account of its stewardship. A conscientious and loyal staff has performed services which we believe have aided in the well-being of North Carolina's people.

**STATE LABORATORY OF HYGIENE, RALEIGH, N. C.**  
**REPORT OF BIOLOGICALS DISTRIBUTED**

The following are prepared in the State Laboratory of Hygiene	July 1, 1946- June 30, 1948	July 1, 1944- June 30, 1946
Diphtheria Toxoid (Alum Precipitated)		
-1cc Vials .....	182	592
10cc Vials .....	19,512	26,733
Diphtheria Toxoid (Ramon)		
10cc Vials .....	222	.....
Combined Diphtheria Toxoid & Pertussis Vaccine		
10cc Vials .....	23,225	2,915
Schick Tests for Diphtheria		
10 Test Packages .....	.....	3,250
100 Test Packages .....	.....	2,197
Tests .....	202,230	.....
Schick Control for Diphtheria		
10 Test Packages .....	.....	393
100 Test Packages .....	.....	70
Tests .....	10,800	.....
Smallpox Vaccine		
Individual Tubes .....	189,915	164,953
50 Dose Vials .....	7,280	9,140
Typhoid Vaccine		
3cc Vials .....	.....	10
10cc Vials .....	22,871	27,416
50cc Vials .....	6,574	7,302
100cc Vials .....	4,870	5,282

	July 1, 1946- June 30, 1948	July 1, 1944- June 30, 1946
Rabies Treatments .....	1,615	1,427
Pertussis Vaccine		
10cc Vials .....	.....	29,561
20cc Vials .....	.....	1,144
Treatments .....	29,006	.....
Autogenous Vaccine .....	147	117
<b>The following are bought and distributed</b>		
Diphtheria Antitoxin		
1,000 Unit Packages .....	225	361
10,000 Unit Packages .....	16,212	6,165
20,000 Unit Packages .....	1,963	2,984
Tetanus Antitoxin		
1,500 Unit Packages .....	3,601	2,414
10,000 Unit Packages .....	52	102
20,000 Unit Packages .....	3	.....
40,000 Unit Packages .....	22	.....
Tetanus Toxoid		
10cc Vials .....	665	474
Combined Diphtheria-Tetanus Toxoid		
10cc Vials .....	1,970	2,091
Triple Antigen		
2cc Vials .....	2	.....
10cc Vials .....	183	.....
Scarlet Fever Antitoxin		
Prophylactic Syringes .....	.....	6
Therapeutic Syringes .....	.....	4
Scarlet Fever Toxin		
1cc Vials .....	9	4
10cc Vials .....	2	5
Dick Test for Scarlet Fever .....	1,670	1,275
Blanching Test for Scarlet Fever .....	.....	100
Bismuth Tartrate		
20cc Vials .....	327	917
Neosarsphenamine and Sulpharsphenamine		
0.4 Gram Ampules .....	124	683
0.6 Gram Ampules .....	19,842	37,990
0.9 Gram Ampules .....	3,644	6,686
4.5 Gram Ampules .....	5	66

	July 1, 1946- June 30, 1948	July 1, 1944- June 30, 1946
Distilled Water		
10cc Vials .....	51,014	72,007
Penicillin—100,000 Unit Packages .....	.....	2,048
Influenza Virus Vaccine		
1cc Vials .....	2,111	.....
5cc Vials .....	1,514	.....
10cc Vials .....	2,992	.....

The following are furnished to the Laboratory by the  
American Red Cross and distributed free of charge

Blood Plasma		
250cc .....	5,598	412
500cc .....	12,527	3,439
Immune Globulin (For Measles Control)		
2cc Vials .....	4,997	1,311
5cc Vials .....	14	3,508

The following are furnished to the Laboratory by the  
U. S. P. H. S. and distributed free of charge

Rocky Mountain Spotted Fever Vaccine		
cc Vials .....	25,109	.....

### STATE LABORATORY OF HYGIENE, RALEIGH, N. C. REPORT OF EXAMINATIONS MADE

July 1, 1946-June 30, 1948-July 1, 1944-June 30, 1946

	Positive	Negative	Unsatis- factory	Total	Total
Water Analyses					
Bacterial and Chemical .. .....	.....	.....	.....	16,981	13,989
Blood Culture Typhoid ....	58	6,968	174	7,200	5,731
General Blood Cultures ....	.....	.....	.....	1,639	936
Feces and Urine Cultures ..	156	2,426	.....	2,582	3,072
Agglutination Tests					
Macro Typhoid Widal ...	72	8,818	.....	8,890	7,077
Weil Felix, Reaction ....	75	7,451	.....	7,526	11,359
Macro—Undulant Fever ..	176	14,861	.....	15,037	5,803
Tularaemia .....	172	5,287	.....	5,459	1,829
Heterophile Antibody ....	15	348	.....	363	.....
Serological Tests for Syphilis					
Civilian .....	.....	.....	.....	802,959	711,797
Selective Service .....	.....	.....	.....	22	1,011
Microscopic Examinations					
Diphtheria .....	1,052	8,084	14	9,150	13,333
Spinal Fluid .....	.....	.....	.....	289	323
Tuberculosis (Sputum) ..	2,650	17,889	149	20,688	14,208

## L July 1, 1946-June 30, 1948-July 1, 1944-June 30, 1946

	Positive	Negative	Unsatis- factory	Total	Total
Malaria (Blood Smears) ..	67	2,039	39	2,145	2,336
Rabies (Animal Brains) ..	679	1,295	56	2,030	1,671
Vincent's Angina .....	4,957	12,571	.....	17,528	19,099
Gonorrhea .....	3,016	18,258	69	21,343	26,418
Darkfield (Chancre Serum)	42	62	31	135	109
Feces, Intestinal Parasites	3,928	19,523	333	23,784	18,479
Animal Inoculations					
Tuberculosis .....	.....	.....	.....	101	49
Rabies .....	.....	.....	.....	446	491
Miscellaneous .....	.....	.....	.....	3,502	2,810
Cultures for Gonococci .....	1,003	2,171	.....	3,174	2,635
TOTAL .....	.....	.....	.....	972,973	864,565

STATE LABORATORY OF HYGIENE  
RECEIPTS

Biologicals Prepared in State Laboratory of Hygiene	July 1, 1946 - June 30, 1948	July 1, 1944 - June 30, 1946
Toxoid .....	\$35,699.35	
Pertussis Vaccine .....	14,589.05	
Autogenous Vaccine .....	640.00	
Silver Nitrate .....	3,633.76	
Antirabic Treatment .....	7,174.57	
Media Reagents .....	627.77	\$ 62,364.50
		\$ 52,114.99
Articles Bought and Distributed		
Diphtheria Antitoxin .....	2,112.49	
Tetanus Antitoxin .....	1,810.44	
Neoarsphenamine .....	3,550.63	
Distilled Water .....	2,725.77	
Bismuth Tartrate .....	172.20	
Scarlet Fever Toxin .....	14.25	
Dick Test .....	81.50	
Influenza Virus Vaccine .....	15,514.17	
Streptomycin .....	208.00	26,189.45
		18,449.55
TOTAL .....	\$ 88,553.95	\$ 70,564.54
Water Tax .....	37,104.00	37,105.75
Specimen Outfits .....	28,893.11	23,874.35
Special Fees .....	810.50	905.50
Miscellaneous .....	743.27	803.71
Animals .....	2,737.57	1,145.29
TOTAL .....	\$158,842.40	\$134,399.14
Refunds .....	1,255.60	251.01
	\$157,586.80	\$134,148.13



## FINANCIAL STATEMENT

Total Expenditures .....	\$357,888.59	\$276,573.51
Total Receipts .....	157,586.80	134,148.13
Appropriation .....	\$200,301.79	\$142,425.38

STATE LABORATORY OF HYGIENE  
DISBURSEMENTS

July 1, 1946-June 30, 1948      July 1, 1944-June 30, 1946

Salary—Director .....	\$ 11,600.00	\$ 5,500.00
Salaries .....	177,796.43	140,711.02
Supplies and Materials .....	84,994.05	57,417.64
Postage, Telephone, etc. ....	15,319.31	13,564.67
Travel Expense .....	2,137.26	1,472.52
Printing and Binding .....	4,063.17	2,492.55
Motor Vehicle Operation .....	3,056.56	3,010.85
Lights, Power, Water .....	5,382.58	5,004.10
Repairs and Alterations .....	5,109.30	2,699.06
General Expense .....	373.84	247.19
Insurance and Bonding .....	122.80	576.90
Equipment .....	2,759.58	4,389.78
Elevator Maintenance .....	770.50	804.00
Debt Service .....	25,180.00	26,620.00
Emergency Salaries .....	5,009.76	4,709.05
Water Analysis Special .....	2,500.00	.....
Workman's Compensation .....	201.60	89.50
Emergency Bonus .....	9,105.85	.....
Motor Purchase .....	2,022.60	.....
Accident Claim .....	383.40	.....
War Bonus .....	.....	7,264.68
TOTAL .....	\$357,888.59	\$276,573.51

## DIVISION OF EPIDEMIOLOGY AND VITAL STATISTICS

This Division represents a combination of the Division of Epidemiology and the Bureau of Vital Statistics. The combination became necessary following the resignation of the Director of the Bureau of Vital Statistics late in 1945.

Inadequate salaries have been a serious handicap to the work of this Division with regard to both professional and clerical personnel.

On September 1, 1946, Dr. C. P. Stevick, Acting Director, resigned to take the position of Co-Director of the School-Health Coordinating Service. Dr. J. Roy Hege resigned from the Division of Local Health Administration at that time to take over the combined divisions. On January 31, 1947, Doctor Hege left the State Board of Health to become Cabarrus County Health Officer. Dr. C. P. Stevick again became Acting Director while continuing part-time with the School-Health Coordinating Service.

Functions of the Division of Epidemiology and Vital Statistics are:

1. Administration of the communicable disease regulations of the State Board of Health.
2. Administration of the premarital examination law.
3. Consultation with local health departments regarding the control of acute communicable diseases.
4. Malaria and fly control.
5. Collection and analysis of morbidity data and issuance of periodic morbidity reports.
6. Distribution of educational communicable disease literature.
7. Maintenance of a typhoid carrier register.
8. Investigation of epidemics.
9. Collection and analysis of mortality and natality information and issuance of periodic vital statistics reports.
10. Issuance of certified copies of birth and death certificates, both free and on a fee basis.

Numerous problems have been handled by the Division during the biennium pertaining to the administration of the communicable disease regulations. These problems consisted primarily of questions of policy which were clarified with the various local health departments. Several revisions were adopted by the State Board of Health. Each local health department was forwarded revision sheets for replacement of the revised regulations in the official loose-leaf copy on file in each local health department.

The Division supplies forms for use by physicians and registers of deeds in carrying out the provisions of the state premarital examination law. Various questions of policy raised by physicians and registers of deeds have been answered. In connection with this activity, the Division col-

lects information regarding premarital physical examination requirements in other states and releases this information in response to a large number of queries. Numerous requests have come to the Division for certified copies of marriage certificates. These requests cannot be met since there are no provisions in North Carolina at this time for the centralized registration of marriage or divorce records. Each county maintains its own records so that all persons seeking this information must be referred to the appropriate county. There is an increasing need for centralized marriage and divorce registration in all of the states. Since many states have already established this service, it would be appropriate for North Carolina to develop plans for a similar program during the coming biennium and to prepare appropriate legislation. An increase in physical facilities will have to be provided for the Division before this work can be undertaken. Additional funds and personnel will also be needed.

Field work by the Director and staff members has been continued as widely as time would permit to promote improvement in the general communicable disease control program in the state. Notification of parents as their children reach the age at which immunizations are indicated has been recommended to the local health departments. Immunizing agents and schedules have been discussed with local personnel. Increased emphasis is being placed on early immunization of children against whooping cough as the result of this field work. Continued emphasis is needed on diphtheria control. An article was prepared by the Division for publication in the October 1946 issue of the North Carolina Medical Journal pointing out that the unexpected rise in diphtheria that took place in this state in 1945 was due to an inadequate number of immunizations among children. The state-wide immunization laws are proving very useful in securing more widespread immunizations.

The greatest need in the communicable disease control program at the present time is for stronger local health departments. The turnover in medical and nursing personnel in these departments has reduced the efficiency of communicable disease control generally and in certain counties where there were no full-time medical officers for a period, due to inadequate salaries and shortage of personnel, programs lost ground temporarily.

An additional urgent need in connection with the communicable disease control program is for more consultative medical service on the part of the Division of Epidemiology and Vital Statistics to the local health departments. At the present time, the Director is the only medical staff member employed in the Division. An additional full-time physician, trained in communicable disease control, is needed either as Director of a new Division of Communicable Disease Control or as an additional staff member of the present combined Division.

The **Malaria Control Unit** of the Division has carried out widespread activities during the biennium. Blood slide surveys of school children have been continued in selected counties in malarious areas. During the report period 19,779 slides were secured. The U. S. Public Health Service Laboratory in Atlanta, Georgia, examined 15,000 of these, together with slides previously collected; in addition, 16,123 were examined by the staff technicians.

The large-scale construction of new ponds continued as a result of the promotional efforts on the part of the U. S. Soil Conservation Service and the North Carolina Agricultural Extension Service. Both of these agencies are cooperating with the North Carolina State Board of Health in requiring that every person who solicits their aid in building a pond must obtain a permit from the Division before such aid will be given.

During the biennium over 1,000 pond site inspections were made. Permits were issued to those owners who had prepared the sites in accordance with the state regulations so as to reduce the malaria hazard. Inspections of numerous ponds already in existence were also carried out and those owners notified who had provided inadequate maintenance which resulted in malaria mosquito breeding.

With personnel, equipment, and materials furnished by the U. S. Public Health Service, the DDT residual spraying program was continued in areas found to be malarious by epidemiological data. Local contributions from counties and private individuals were sought to as great an extent as possible so as to permit the use of federally employed field workers as supervisors and to secure the maximum coverage of the malarious parts of the state with the funds and equipment available to the Malaria Control Unit.

Federal funds amounting to \$5,000 were secured in 1947 for demonstration fly control projects. With approximately \$3,000 of this sum, a revolving fund was established to obtain a supply of DDT for sale at cost to counties desiring to carry out fly control projects. These projects have become extremely widespread due to the enthusiastic reception by the public and have taxed the facilities of the Division to the utmost. Since no additional personnel were available for fly control, the existing staff has been able to meet only the emergency requests for assistance. During the biennium, fly control projects were begun in 35 counties and 5,046 gallons of DDT concentrate were sold at cost, the total value amounting to \$9,102.60. Much of this DDT was mixed before distribution, at the mixing plant operated by the Malaria Control Unit. In order to continue this program on a basis that will adequately meet the demand, two additional full-time workers are required and a permanent revolving fund of \$10,000 should be established so that counties can continue to be supplied with DDT at cost until such time as commercial products of satisfactory quality and in adequate quantity are available.

The North Carolina State Highway Commission, as in the recent past, has cooperated in constructing and maintaining borrow pits in such a manner that they will not retain water long enough to breed mosquitoes where the topography of the country makes it practical for them to do so.

The morbidity and mortality data collected by the Division have provided valuable information regarding the health of the population of the state. The communicable disease causing the most deaths in North Carolina is still tuberculosis; however, certain encouraging trends are apparent with respect to this disease.

The 1947 mortality rate for tuberculosis is 28.4 deaths per 100,000 population as compared to the 1946 rate of 30.3. There has been an extensive

improvement in tuberculosis case-finding as is reflected by a 100 per cent increase in morbidity reports since 1944. At that time the morbidity rate was 48 cases per 100,000 population. It increased to 96.6 in 1947. A third encouraging trend with respect to this disease is the improvement in the ratio of minimal to far-advanced active cases diagnosed. In 1947, of the 2,059 active cases reported, 16 per cent were in the minimal stage as compared to 14.7 per cent in 1945.

Gonorrhea and syphilis remain the largest single causes of morbidity among the reportable communicable diseases. Here, too, however, an encouraging decline occurred in 1947. The gonorrhea morbidity rate has been rising steadily in this state as reporting and case-finding have improved. Ten years ago the reported gonorrhea morbidity rate was 82 cases per 100,000 population. This rate increased steadily to 421 in 1946. The past year shows the first sizeable decline that has taken place during this period with the rate falling to 381. Syphilis morbidity reports rose steadily for many years until 1939 when a peak rate of 877 cases per 100,000 population was reported. Following that year, syphilis morbidity declined annually until 1946 when a definite increase occurred. That rate was 242. In 1947 the rate declined to 235. Whether or not this decline represents a renewal of the downward trend in syphilis morbidity, interrupted by demobilization, remains to be seen.

Pertussis continues to lead diphtheria as a cause of death; however, the downward trend in the mortality rates for these diseases persisted through 1947 and brought record lows for both. Diphtheria morbidity rose slightly in 1947, but pertussis morbidity was the lowest recorded since 1936.

Typhoid fever cases reached a new low, amounting to only 47 in 1947. This disease has declined without interruption since 1935 and is a good index of the improving situation with regard to environmental sanitation throughout the state.

An interesting decline in scarlet fever morbidity has taken place during the past two years. Prior to 1945 the rate fluctuated between 60 and 80 over a period of at least ten years without any tendency to decline. In 1945 the rate was 85 cases per 100,000 population. In 1946 the rate dropped to 40, the lowest ever recorded. In 1947 the rate dropped still further to 31. The widespread use of chemotherapy in the population may have been a factor in this decline.

The hazard of war-born malaria and amebic dysentery appears to be steadily diminishing. While reports of malaria in veterans are being received, the over-all recorded malaria morbidity rate declined from 9.6 cases per 100,000 last year to 3.7 this year. The morbidity rate for amebic dysentery remained unchanged at 0.5 cases per 100,000 population.

Three diseases which caused a rise in morbidity in 1947 are Rocky Mountain spotted fever, tularemia, and undulant fever. Rocky Mountain spotted fever cases totaled 88, the largest number ever recorded; however, there were only 17 deaths as compared to 21 for the previous year. Apparently, the new therapeutic developments largely overcame the increase in morbidity. There were 74 cases of tularemia reported in 1947.

This total also represents a new high. Undulant fever cases rose to 21. According to death certificates received to date for 1947, there has been no increase in mortality from these latter two diseases.

Of the non-communicable diseases, cancer and diseases of the cardio-vascular-renal system are still on the increase. In this connection, it is necessary to outline the changes that are taking place in the age of our population. In the fifty-year period ending with the 1940 census, the portion of the population above age forty increased from 19 per cent in 1890 to 24 per cent in 1940. With the great decline that has occurred in the preventable diseases and with the larger portion of the population subject to diseases of advancing age, our rising cancer and cardiovascular mortality rates are clearly understandable and are a by-product of the increasing life expectancy. In view of this situation, it is entirely possible that as the diseases we now know to be preventable are reduced still further and as the degenerative diseases increase with the increasing age of our people, the crude death rate for North Carolina will begin to rise and later become stabilized at considerably above its present level. As a matter of fact, this may be coming about at the present time. The provisional crude death rate for 1947 is 8.0 as compared to 7.8 for the previous year. With better control of cancer, the cardiovascular diseases will be responsible for a still great number of deaths.

The heart disease control program begins to appear not so much as an eradication problem as merely an attempt to change the age pattern, thereby reducing the incidence below age 75. One factor that will temporarily slow the aging of the state's population is the post-war rise in our birth rate. This increase has probably reached its peak with 1947, which saw the arrival of over 113,000 infants and gave us a birth rate of 29.9 births per 1000 population, the highest since 1925.

Other changes of interest have occurred in our mortality picture. The maternal mortality rate has reached the new low of 1.8 deaths per 1000 live births and the infant mortality rate has dropped to 35.2.

Automobile accidents declined slightly in 1947; however, other accidents showed a moderate rise.

Pneumonia has continued the downward trend that has persisted each year for over ten years. The rate ten years ago was approximately 77 deaths per 100,000 population. The 1947 rate is 34.2.

In addition to the routine reports issued, over 1000 special requests for statistical information were released in the past two years to private physicians, medical schools, health officers, educational institutions, governmental agencies, and private individuals. Only one full-time statistician is available to handle this work. A position for a second statistician has been vacant for two years due to the inadequacy of the salary offered and the experience and training required of desirable candidates.

Much of the educational literature of the Division has been revised during the biennium so as to provide more up-to-date information regarding control measures for communicable diseases.

The typhoid carrier register maintained by the Division now lists eighty-seven individuals who are residents of this state and who are known to be typhoid carriers. Health departments are contacted at regular intervals to insure that supervision of each individual is being maintained.

There have been no serious epidemics of preventable communicable diseases during the biennium. Several small-scale outbreaks of food poisoning occurred and were largely handled by local public health personnel.

In the fall of 1946 an outbreak of ringworm of the scalp appeared in Alamance County. Since no health officer was employed there at that time, a physician was secured on loan from the U. S. Public Health Service to operate a control program. Small numbers of cases of this disease were found in a few white schools in other counties of the state and in a large number of colored schools. Special equipment was obtained by the Division to assist in the survey of schools and health department personnel were instructed regarding control measures.

In 1947, what was at the time our third largest outbreak of poliomyelitis occurred. The cases were concentrated chiefly in three south central counties. As the biennium came to a close in June 1948, another sizeable epidemic of this disease, for which no effective control measure yet exists, made its appearance.

In 1943, a study was published by the National Office of Vital Statistics showing that North Carolina ranked near the bottom of all of the states regarding the completeness of birth registration. During the period December 31, 1939, to March 31, 1940, North Carolina registered only 88.4 per cent of all white births and 81.0 per cent of all non-white births. In an effort to improve this situation, the program of consolidation of registration districts in the state was given increased emphasis during the biennium. In eleven additional counties the registration of births and deaths was established as a county-wide function of the local health departments, as is provided by existing legislation, making a total of thirty-four counties so consolidated.

Promotional work with physicians, hospitals, and undertakers throughout the state to improve the efficiency of registration is urgently needed. During the biennium there was available for field work of this type only one employee on a part-time basis. Two full-time field representatives are needed to maintain adequate contact with the remaining town and township registrars and to encourage more complete and prompt filing of certificates by physicians and undertakers.

When birth and death certificates are received in the state office, it is required by statute that an index be maintained so that, upon request, certificates can be located and certified copies made. During the biennium 71,859 certified copies were issued, upon request, in addition to approximately 200,000 photostatic copies for newborn infants. During previous years, the index steadily deteriorated due to inadequate personnel for its maintenance. As the result of this situation, large sections of the index became unusable, with the result that, for all practical purposes, thousands of certificates were lost in the files. At the start of the biennium, certain

federal funds became available temporarily and have been used to establish a reindexing project. A total of approximately 3,500,000 have been filed since the registration law went into effect in 1913. During the report period the birth certificates for the years 1913-1919 and 1931-1932 have been reindexed. The federal funds being used for this project may be withdrawn at any time. At least three key punch operators are needed on the state payroll for this work. Should this project be discontinued for any considerable period of time, it will be no longer be possible for a large number of North Carolina citizens to secure copies of their original birth certificates.

Present storage space in a fire-proof vault for birth and death records will be adequate for only two more years at the most. For even this short period quarters will have to be extremely crowded and will reduce operating efficiency. At the end of the next two years there will be on file birth certificates for individuals thirty-seven years of age and younger. Since certificates remain in active use throughout the entire life of an individual, the additional space eventually needed to handle birth records until they can be removed to inactive storage will be at least double that now in use. These requirements should be given careful study in any new construction for the State Board of Health and should no construction be planned during the biennium, fire-proof storage facilities should be built within this period.

For the report period there were issued 9,663 free certified copies of birth certificates to veterans and to American Legion junior baseball candidates who are specified as eligible to receive such copies without charge. The demand for certified copies for the junior baseball candidates has become so large and is concentrated over such a short period each year that the desired service can no longer be adequately supplied by the facilities available. Large numbers of these requests must remain unfilled at the end of the qualifying period for the teams. The reindexing project, when sufficiently advanced, will permit the work to be handled more rapidly. As the biennium closed, the draft of citizens between the ages of eighteen and twenty-five years was in prospect. Since each draftee is required to present a certified copy of his birth certificate, a heavy additional load will be placed on the Division. At least three more employees are needed as file clerks to handle issuance of certified copies.

Plans were made during the report period to revise the method of issuance of certified copies of birth certificates for adopted and illegitimate children so as to begin use on July 1, 1948, of a birth registration card containing no items of an undesirable nature, as was formerly necessary. The use of such a card has already been adopted by various other states.



## VENEREAL DISEASE EDUCATION INSTITUTE

The Venereal Disease Education Institute operates as a Division of the North Carolina State Board of Health in cooperation with the United States Public Health Service. Its purposes are to:

1. Develop and produce methods and materials for public education in Venereal Disease Control.
2. Evaluate such materials before and after production.
3. Facilitate the distribution of tested materials.
4. Develop and evaluate a plan of community education for Venereal Disease Control.

### Personnel Budget

The salaries of the personnel of the Institute are paid by the United States Public Health Service. The necessary capital funds for carrying on the publishing activities of the Institute were provided by a capital grant of \$75,000 given by the Zachary Smith Reynolds Foundation. As of June 30, 1948, the net worth of this fund was \$92,685.51, the increment having resulted from the modest charges made for published health education materials which were sold outside of North Carolina. The title to and administration of these funds are vested in the North Carolina Social Hygiene Society, Inc., a nonprofit corporation organized for that purpose, of which the State Health Officer is a Director.

The State of North Carolina makes no appropriation whatsoever to the budget of the Institute, except that quarters (including utilities) are provided in one of the State Board of Health buildings. In exchange for these quarters the Institute makes available its educational materials to North Carolina health agencies without charge.

Until April 1, 1948, the Institute was directed by Capus M. Waynick. As of that date Mr. Waynick resigned and was succeeded by Felix A. Grisette.

### Production and Distribution

The Institute has developed more than 125 various types of visual aid devices intended to win public support for the VD control program, to bring about social immunization against the infections, and to assist in case-finding. During the current biennium a total of 4,014,547 items of materials were distributed to 43 States and 16 foreign countries. The month by month distribution for this period follows:

1946-47		1947-48	
July .....	52,270	July .....	154,984
August .....	181,945	August .....	1,025,967
September .....	17,879	September .....	55,427
October .....	217,691	October .....	197,214
November .....	96,729	November .....	32,534
December .....	45,873	December .....	37,290
January .....	121,037	January .....	120,863

February .....	127,241	February .....	29,027
March .....	30,551	March .....	131,969
April .....	20,016	April .....	148,261
May .....	213,053	May .....	234,069
June .....	62,571	June .....	660,086

During the biennium, a total of 123,163 items were distributed without charge to health agencies within the the State of North Carolina.

## REYNOLDS RESEARCH LABORATORY

### Administrative:

From July 1, 1946 to June 30, 1947, this laboratory operated as the Reynolds Research Laboratory, supported by a grant from the Zachary-Smith Reynolds Foundation, with supplemental support from the Research Grants Division of the National Institute of Health. With the termination of the Reynolds' Foundation contributions July 1, 1947, the laboratory operated between July 1, 1947 and June 30, 1948 as a cooperative project between the North Carolina State Board of Health, the School of Public Health and of the University of North Carolina, and the U. S. Public Health Service. Additional support was again obtained from the Research Grants Division of the National Institute of Health. As of July 1, 1948, this cooperative project was terminated and the laboratory became established as a field station of the Venereal Disease Division of the U. S. Public Health Service, functioning as the Syphilis Experimental Laboratory. Construction is soon to start on a new building to house the greatly expanded activities of the laboratory.

### Research Activity:

The major emphasis of our research program has been in the field of experimental syphilis with particular reference to the problems of immunity in this disease. As the laboratory has expanded, the work has encompassed additional fields in the fields of antibiotics, antibiotic therapy, chemotherapy, and immune processes in other diseases. Publications by staff members during the past biennium include the following:

1. Clinical Uses of 2, 3-Dimercaptopropanol (BAL). I. The Systemic Treatment of Experimental Arsenic Poisoning (Marpharsen, Lewisite, Phenyl Arsenoxide) With BAL.—Harry Eagle, Harold J. Magnuson and Ralph Fleischman,—*J. of Clinical Investigation*, Vol. XXV, No. 4, pp. 451-466, July 1946.
2. Clinical Uses of 2, 3-Dimercaptopropanol (BAL). II. The Effect of BAL on the Excretion of Arsenic in Normal Subjects and After Minimal Exposure to Arsenical Smoke,—Wexler, J., Harry Eagle, H. J. Tatum, and H. J. Magnuson,—*J. of Clinical Investigation*, Vol. XXV, No 4, pp. 467-473, July 1946.
3. The Effect of the Method of Administration on the Therapeutic Efficacy of Sodium Penicillin in Experimental Syphilis,—Harry Eagle, Harold J. Magnuson, and Ralph Fleischman,—*Bull. Johns Hopkins Hospital*, Vol. LXXIX, No. 2, pp. 168-189, August 1946.

4. The Systemic Treatment of 227 Cases of Arsenic Poisoning (Encephalitis, Dermatitis, Blood Dyscrasias, Jaundice, Fever) with 2,3-Dimercaptopropanol (BAL),—Harry Eagle, and Harold J. Magnuson,—*Am. J. of Syphilis, Gonorrhea and Venereal Diseases*, Vol. 30, No. 5, pp. 420-441, Sept. 1946.
5. The Protective Action of BAL in Experimental Antimony Poisoning,—Harry Eagle, Frederick G. Germuth, Jr., and Harold J. Magnuson, Ralph Fleischman,—*J. of Pharmacology and Experimental Therapeutics*, Vol. 89, No. 2, Feb. 1947.
6. Relation of the Size of the Inoculum and the Age of the Infection to the Curative Dose of Penicillin in Experimental Syphilis, with Particular Reference to the Feasibility of its Prophylactic Use,—Harry Eagle, H. J. Magnuson, and Ralph Fleischman,—*Journal of Experimental Medicine*, Vol. 85, No. 4, pp. 423-440, April 1947.
7. The Effect of Hyperpyrexia on the Therapeutic Efficacy of Penicillin in Experimental Syphilis,—Harry Eagle, Harold J. Magnuson and Ralph Fleischman,—*Am. J. of Syphilis, Gonorrhea, and Venereal Diseases*, Vol. 31, No. 3, pp. 239-246, May 1947.
8. Observation on the Therapeutic Efficacy in Experimental Syphilis of Calcium Penicillin in Oil and Beeswax and their Bearing on its Use in Man,—Harry Eagle, Harold J. Magnuson, and Ralph Fleischman,—*Am. J. of Syphilis, Gonorrhea, and Venereal Diseases*, Vol. 31, No. 3, pp. 246-257, May 1947.
9. The Local Chemical Prophylaxis of Experimental Syphilis with Phenyl Arsenoxide Incorporated in Ointments in Soap,—Harry Eagle, Harold J. Magnuson and Ralph Fleischman,—*Am. J. of Syphilis, Gonorrhea, and Venereal Diseases*, Vol. 31, No. 3, pp. 257-264, May 1947.
10. The Minimal Infectious Inoculum of *S. Pallida* (Nichols strain), and a Consideration of Its Rate of Multiplication in Vivo,—Harold J. Magnuson, Harry Eagle, and Ralph Fleischman,—*Am. J. of Syphilis, Gonorrhea and Venereal Diseases*, Vol. 32, pp. 1-18, January 1948.
11. Studies with Antibiotic Producing Strains of *Escherichia Coli*,—S. P. Halbert and Harold J. Magnuson,—*Journal of Immunology*, Vol. 58, No. 4, pp. 397-415, April 1948.
12. Attempted Immunization of Rabbits Against Syphilis with Killed *Treponema Pallidum* and Adjuvants,—Harold J. Magnuson, S. P. Halbert and Barbara J. Rosenau,—*Journal of Venereal Disease Information*, Vol. 28, No. 12, pp. 267-271, December 1947.
13. Bismuth Plus Penicillin in the Treatment of Experimental Syphilis,—Harold J. Magnuson, and Barbara J. Rosenau,—*American Journal of Syphilis, Gonorrhea and Venereal Diseases*, Vol. 32, pp. 203-212, May 1948.

14. The Rate of Development and Degree of Acquired Immunity in Experimental Syphilis,—Harold J. Magnuson, and Barbara J. Rosenau,—*American Journal of Syphilis, Gonorrhea and Venereal Diseases*,—In Press.
15. The Treatment of Asymptomatic Neurosyphilis in the White Mouse,—Harold J. Magnuson and Barbara J. Rosenau,—*Journal of Investigative Dermatology*,—In Press.
16. Current Concepts of Immunity in Syphilis,—Harold J. Magnuson,—*American Journal of Medicine*,—In Press.
17. The Increased Antigenicity of *Shigella Paradysenteriae* (Flexner) in Saline in Mineral Oil Emulsions; Experiments in Mice and Rabbits,—S. P. Halbert, S. Mudd, and J. Smolens,—*Journal of Immunology*,—Vol. 53, page 291, 1946.
18. Studies with the Somatic Antigen of *Shigella Paradysenteriae* (Flexner),—J. Smolens, S. P. Halbert, S. Mudd, B. Doak, and L. Gonzalez,—*Journal of Immunology*, Vol. 52, page 41, 1946.
19. A Comparison of Rabbit and Mouse Antisera to *Shigella Paradysenteriae*,—B. Doak, S. P. Halbert, J. Smolens, and S. Mudd,—*Journal of Immunology*,—Vol. 52, page 113, 1946.
20. Responses of Human Subjects to Vaccines in Saline-in-Mineral Oil Emulsion,—S. Mudd, S. P. Halbert, and J. Smolens,—*Journal of Immunology*, Vol. 58, 1948.
21. Persistence of Antigen at the Site of Inoculation of Vaccine Emulsified in Oil,—M. Hardegen, S. P. Halbert, and S. Mudd,—*Journal of Immunology*, Vol. 56, 1947.
22. Studies of the Acute Diarrheal Diseases. XVI. Further Observations of Chemotherapy in Shigellosis; The Efficacy of Streptomycin and Sulfacarzole,—A. V. Hardy and S. P. Halbert,—*Public Health Reports*, Vol. 63, No. 24, pp. 790-792, June 11, 1948.
23. Studies of the Acute Diarrheal Diseases. XVII. Immunization in Shigellosis,—A. V. Hardy, T. De Capito, and S. P. Halbert,—*Public Health Reports*, Vol. 63, No. 21, pp. 685-688, May 21, 1948.
24. The Antagonism of Coliform Bacteria Against *Shigellae*,—S. P. Halbert,—*Journal of Immunology*, Vol. 58, No. 2, February 1948.
25. The Relation of Antagonistic Coliform Organisms to *Shigella* Infections. I. Survey Observations,—S. P. Halbert,—*Journal of Immunology*—In Press.
26. The Relation of Antagonistic Coliform Organisms to *Shigella* Infections. II. Observations in Acute Cases,—S. P. Halbert,—*Journal of Immunology*—In Press.
27. Further Studies on the Prevalence of Antibiotic Producing Coliform Organisms,—S. P. Halbert and M. Gravatt,—*American Journal of Bacteriology*—In Press.

### Teaching Activities:

The Director of the laboratory has continued to teach courses in venereal disease control to the physicians, nurses, health educators and others registered in the School of Public Health at the University of North Carolina. In addition the Director has participated in venereal disease control seminars held throughout the United States, at Detroit, Michigan; Jackson, Mississippi; Boise, Idaho; Los Angeles, California; and Washington, D. C. During this biennium the Director of the laboratory has presented scientific papers at the following meetings:

1. Symposium, Recent Advances in the Investigation of Venereal Diseases, held in Washington, D. C., on April 17, 1947.
2. Symposium, Recent Advances in the Investigation of Venereal Diseases, held in Washington, D. C., on April 7, 1948.
3. Society for American Bacteriologists held in Minneapolis, Minnesota, on May 11, 1948.
4. Society for Investigative Dermatology held in Chicago, Illinois, on June 21, 1948.

Dr. Halbert has presented papers at the following meetings:

1. Society for American Bacteriologists held in Philadelphia, Pennsylvania on May 21, 1947.
2. Society for American Bacteriologists held in Minneapolis, Minnesota, on May 11, 1948.

Respectfully submitted,

HAROLD J. MAGNUSON, Surgeon  
Medical Officer in Charge

## FIELD EPIDEMIOLOGICAL STUDY OF SYPHILIS

The Field Epidemiological Study of Syphilis was set up in 1940 to follow the trends in syphilis over a long period of time. It is supported by the North Carolina State Board of Health and the International Health Division of the Rockefeller Foundation.

The primary purpose of the Study is to determine the effectiveness of the methods of syphilis control being used in the study area. Data has, therefore, been continuously gathered to provide a base line of information regarding syphilis in the various population groups in the study area by race, age, sex, marital and socio-economic status. The effectiveness of control methods can therefore be measured by changes in the attack rate, discovery rate, and prevalence rate.

Because of the problems involved in carrying on such a study on a state-wide basis, two study areas were selected: the Orange-Person-Chat-ham Health District, which is a typical rural area, and the Durham City-County Health District, which is a typical urban area. The population covered is roughly 160,000 living in an area of 1792 square miles. It was felt that what was happening in these areas should be fairly typical of the State of North Carolina as a whole.

During this biennium a number of important developments took place in the Study. It was felt that sufficient data had been accumulated since the inception of this investigation to merit a detailed analysis—one which, in addition to shedding some light on a series of special aspects of syphilis control such as the effect of the war, penicillin therapy, etc., would also provide a reliable base line of data regarding attack and prevalence rates of syphilis with which data to be obtained henceforth could be compared. This latter is the basic investigation which occupies the bulk of the time of the Study staff.

The preparations for this type of detailed analysis involved among other things:

1. The completion, correction and cross-checking of all records for errors, duplication, etc.
2. The amalgamation of the serological and case registers into one master file consisting of an index card for each individual on whose status with relation to syphilis any information has been obtained.
3. Technical arrangements for the use of International Business Machines equipment so that index card data could be analysed adequately and efficiently.

In August 1947, the Study had the benefit of a visit from Dr. Persis Putnam of the Rockefeller Foundation, who spent two weeks in the Study headquarters assisting in working out coding and other necessary statistical details involved in the preparations for the analyses of the accumulated data relating to the incidence of syphilis in the years under study.

In order to expedite the completion of the clerical tasks involved in the above-described analysis, the clerical staff was enlarged by the addition of one clerk on a permanent basis and two clerks on a temporary basis.

Greatly enlarged quarters at the School of Public Health were obtained to house the enlarged staff, the files and the IBM equipment.

Special efforts were also made to complete the cross check for error and duplication the data for the study of syphilis among pregnant women in the Orange-Person-Chatham area in order to prepare these data for mechanical processing and statistical analysis.

Since its inception, the professional members of the Study staff have provided consultation on a continuing basis to the venereal disease clinics of the health departments in the area under study. Records have also been kept of the effectiveness of the epidemiologic approach in venereal disease control and also the relative effectiveness of other case-finding techniques.

The Director of this Study since its inception became Professor of Public Health Administration at the School of Public Health, of the University of North Carolina, on July 1, 1947, thus making it necessary to obtain the services of another physician to carry on the day to day work of the Study. On October 1, 1947, Dr. Cecil G. Sheps, therefore, assumed the position of Assistant Director of the Study with the Director being available to give the Study constant guidance and direction.

The staff has continued with its teaching activities with special emphasis on the value of the epidemiologic approach and method. These include educational activities among the health officers of North Carolina at special institutes, among public health nurses in local health departments, and at the School of Public Health of the University of North Carolina.

The staff also cooperates with the Rapid Treatment Centers of the State and participates in their program in an organized fashion.

The discovery rate is made up of all the cases of syphilis diagnosed for the first time. Included are both the newly acquired infections and the old ones. The attack rate however is made up only of the newly acquired infections during any year. Preliminary analyses of our data in previous years have indicated that the discovery rate has been decreasing. This is interpreted to mean that the syphilis control program has been most effective thus far in finding the latent and late cases of syphilis. These constitute the great backlog of old syphilis cases amongst which developed the cases of neurosyphilis, cardiovascular and other forms of late syphilis and congenital syphilis. This reservoir in our population from which stemmed the serious complications of syphilis is being eliminated. These same analyses have also indicated, however, that the attack rate of syphilis in the study area—the number of newly acquired cases per 1000 population—has not declined over the years. As a matter of fact, there is evidence that there has been an increase in the past few years. This is the hard core of the syphilis control problem—the prevention of the spread of syphilis by finding the infectious cases. The treatment of these cases has, of course, been greatly simplified with the advent of penicillin therapy. The basic problem remains that of finding the infectious cases as early as possible.

During the first years of the Study, principal emphasis and effort was directed toward the accumulation of accurate data by which the effective-

ness of the measures used in the control of syphilis might be evaluated. Much reliable data has been gathered in these years. The channels for its accumulation have become well established through the combined efforts of the personnel in the Study and the cooperation of the staffs of the health departments involved. The rapport established by the staff members with the sources of data now enable it to be accumulated with a minimum of effort so that the principal emphasis and effort of the staff can now be directed toward the processing and analysis of those data. The following studies are now in various stages of completion and, it is planned, will be submitted for publication during the year 1947-48:

1. An evaluation of case-finding measures in syphilis control.
2. An evaluation of case-finding measures in the control of second episodes of infectious syphilis (recurrence, re-infection, relapse).
3. Indices in the epidemiology of syphilis.
4. The cost of contact tracing in syphilis control.
5. Trends in the syphilis attack and discovery rate.
6. Syphilis among parturient women as an index to the trend of syphilis in the general population.
7. The probability of contracting syphilis — by race, sex and age.
8. An evaluation of case-finding measures in gonorrhea control.
9. The effect of the military V. D. education program as reflected in health department experience with gonorrhea.

It is hoped that these reports will be of some assistance in the continuing search for a more efficient and effective control program and will also provide an accurate and adequate base line upon which to build continuing comparative studies.

Respectfully submitted,

JOHN J. WRIGHT, M. D., M. P. H.,  
Director,  
Field Epidemiological Study of  
Syphilis



## DIVISION OF LOCAL HEALTH ADMINISTRATION

A hurried review of local health activities reveals some rather worrisome facts, not the least of which is the number of vacancies occurring in our local health departments and in the Division of Local Health Administration. As of June 30, 1948, there were eight vacancies in the Division of Local Health Administration. There were sixty-four vacancies in our local health departments. Fourteen of these sixty-four vacancies were for medical officers, eleven of which were health officers. There were thirty vacant positions for public health nurses. Seven positions for sanitarians were vacant.

It is our local health departments that carry the gospel of public health into the homes. We are handicapped and our health program suffers when we are unable to recruit our personnel up to the full limit which appropriating bodies have approved. It would seem that the chief obstacle in securing physicians who are qualified as health officers, of nurses who will become public health nurses, and of sanitarians is the low salary schedule which has been provided for these positions.

There are, however, some encouraging facts. County commissioners and city governments have expressed in a very tangible way their interest in their local health departments. They have increased their appropriations. As of June 30, 1948, the per capita expenditure from all sources for all of our local health departments was 86.6 cents. Of this amount, appropriations from counties and cities made up a total which was 60.5 cents per capita. The State of North Carolina in its appropriations for state aid to local health departments, including the appropriation for venereal disease control, amounted to 10.0 cents per capita. All federal and other agencies provided a total which amounted to 16.1 cents per capita. In 1933, the total expenditure for all local health departments in the state was \$405,000. In 1948, the total expenditure was \$3,040,000. In 1933, 18.5 per cent of all money made available for local health work was appropriated by the State of North Carolina. In 1948, this percentage was decreased to 11.5 per cent. Local appropriating bodies apparently approve and demand well-trained health workers.

Local health officers are, in many instances, receiving salaries considerably in excess of those which the State of North Carolina is willing to pay those physicians employed by the state. These greater salaries for local health officers are approved by the boards of health which employ them and are paid principally out of funds which are appropriated by city and county commissioners, with the full knowledge and consent of taxpayers whom the health officers serve. Some fifteen or twenty years or more ago it was considered a promotion for a local health officer to be asked to serve as a Division Director in the North Carolina State Board of Health. Today it is a promotion for a Division Director to leave the State Board of Health and work as a local health officer. Within the past two years, four physicians who were Division Directors of the State Board of Health have resigned to accept better paying positions, three to become local health officers and one as superintendent of a county hospital.

There is no question but what the quality of our local health service has improved. The local appropriating bodies are insistent that the service be further increased. They are backing their insistence with their money. The City of Charlotte budget provides more than \$2.26 per capita. Of the county-wide health departments, that for New Hanover County provides the greatest per capita expenditure, or more than \$1.96. It is closely followed by Durham County with \$1.94 per capita. Of Charlotte's \$2.26, \$2.05 per capita is local appropriation. Of New Hanover County's \$1.96, \$1.53 is local money. Of Durham's \$1.94, \$1.60 is local money.

These facts are encouraging. They are indicative of the desire of North Carolina's people to have modern, efficient health departments.

During the fiscal year 1946-47, one county joined the movement toward full-time health service for every county in the state:

July 1, 1946 — Lee County (attempted to set up its own department, but later, because of inability to secure personnel, joined the Orange-Person-Chatham Health Department).

With the beginning of the fiscal year 1947-48 the following counties organized full-time health services:

July 1, 1947 — Alexander County (joined with Catawba and Lincoln Counties, forming the Catawba-Lincoln-Alexander District Health Department).

July 1, 1947 — Henderson County (joined with Transylvania County, which had been a part of the Haywood-Jackson-Macon-Swain-Transylvania District Health Department, to form the Henderson-Transylvania District Health Department).

As of June 30, 1948, there were full-time health services in 96 of the 100 counties in North Carolina. Five of the larger incorporated cities also maintained full-time health services. At the beginning of the biennium there were 68 full-time local health departments in the state, 43 of which were county health departments, 21 district health departments, and 5 city health departments. The size of these districts vary from two to four counties in each district. At the close of the biennium, in spite of the adding of three counties to full-time health service and the breaking away of three counties from district health departments, there were only 70 full time local health departments in North Carolina, 45 of which were county health departments, 20 districts departments, and 5 city health departments. There were employed in the 96 counties and 5 city health departments a total of 825 full-time workers. Of this number, 51 were health officers, 10 assistant health officers, 2 epidemiologists, and 4 dentists. There were 14 supervising nurses and 338 staff nurses; 158 sanitarians, engineers and veterinarians were employed; and 26 public health investigators (follow-up workers) employed. The other personnel consisted of 26 public health educators and 181 clerks. The attached data sheet on full-time county, district, and city health services for the fiscal year 1947-48 shows budgeted positions for a greater number of public health personnel than were employed. As of June 30, 1948, vacancies existed in round numbers in 10 per cent of the budgeted positions.

During the biennium the consultant nursing staff changed as follows:

1. Miss Lila Anderson, of the U. S. Public Health Service, who had been assigned to the N. C. State Board of Health, was transferred to Washington, D. C., September 13, 1947.

2. Miss Idell Buchan died June 8, 1947.

3. Mrs. Romaine Wicks Liloia began work with this division on April 1, 1947, and resigned as of September 1, 1947.

On July 1, 1946, the War Activities adjunct to local services was discontinued since the emergency occasioned by the war had ceased to exist.

At the beginning of the biennium the Division of Local Health Administration was directed by Dr. R. E. Fox with the assistance of Dr. William P. Richardson and Dr. J. Roy Hege. At that time the state was divided into three districts, with Dr. Richardson in charge of District No. 1, the eastern part of the state; Dr. Hege, District No. 2, the central part of the state; and Dr. Fox, District No. 3, the western part of the state. Dr. Hege left the Division of Local Health Administration to become the Director of the Divisions of Epidemiology and Vital Statistics as of October 1946. After Dr. Hege left, the territory which he had served was divided and given to Doctors Fox and Richardson, thereby dividing the state into two districts — an eastern district and a western district. In August 1946, Dr. William D. Hazelhurst, an officer of the Public Health Service on loan to North Carolina as Consultant in the V. D. program, resigned his position with the Service and left the State Board of Health. Miss A. Helen Martikainen of the U. S. Public Health Service, who had been Assistant Director of Public Health Education before her resignation June 30, 1946, to go with the District Office of the Public Health Service at Richmond, Virginia, returned to the Division of Local Health Administration on September 2, 1947, as Director of Public Health Education. Miss Jennie Stout served as Acting Assistant Director of Public Health Education during Miss Martikainen's absence from the N. C. State Board of Health. An enlarged field service was begun on September 1, 1947, when Miss Geneva Drye and Miss Alice Turnage joined the staff of the Division of Local Health Administration as Field Representatives to assist Miss Sarah Goggans, who had been in charge of all the field work before that time. Mr. Horace Holmes, Jr., of the U. S. Public Health Service has spent his time in securing war surplus equipment for the venereal disease rapid treatment centers and in preparing the analytical reports of the venereal disease control program. During this period almost all of the routine office procedure was turned over to Mr. I. A. McCary, Administrative Assistant, thereby giving the director of the division more time to consider problems pertaining to local health work. Through the application of the budget formula, a device worked out and applied by Mr. A. R. Reep, Statistician for the division, to state venereal disease funds and to all federal funds, the allocation of these funds has become almost a routine procedure.

During the biennium, the major emphasis in the health education program development has been devoted to strengthening local health educa-

tion programs through recruitment, training, and placement of trained health educators as full-time staff members with local health departments. As of June 30, 1948, there were thirteen full-time health educators with local health departments. In addition, two of the five health educators at the state level were given local health education assignments in addition to their supervisory duties and responsibilities effective as of January 1, 1948.

Two full-time health educators were employed to assist with the health education aspects of the programs being carried on by the Division of Tuberculosis Control and the School Health Coordinating Service, respectively.

As of September, 1946, a trained health educator was employed by Lenoir Rhyne College in Hickory in cooperation with the District Health Department in Newton. As of October 1, 1947, another cooperation college-community health education demonstration was initiated at Appalachian State Teacher's College in Boone financed by the North Carolina Division of the American Cancer Society, North Carolina Social Hygiene Society, North Carolina Tuberculosis Association, North Carolina State Board of Health, and the District Health Department at Boone.

During the biennium thirteen prospective health educators were recruited for one year of graduate study in public health and health education at the School of Public Health, University of North Carolina and North Carolina College in Durham.

As aids in promoting the program, 52 counties and the two rapid treatment centers have been supplied with 55 motion picture projectors. One hundred and fifty titles of films on general health subjects were provided by the Film Library.

The training program is designed to prepare public health personnel to do an adequate job. During the biennium 126 persons were on the training payroll. The distribution was as follows:

Health Officers .....	7
Public Health Nurses .....	54
Sanitarians .....	44
Sanitary Engineers .....	1
Public Health Investigators .....	11
Health Educators .....	8
Bacteriologists .....	1
<hr/>	
Total .....	126

On June 30, 1948, only four public health nurses were with the department—one supervising nurse and three consultant nurses. During the biennium, the public health nursing consultant staff made field visits to local health departments for consultation service to health officers and public health nurses. There are local supervising public health nurses in only 15 of the health departments. In those departments without super-

visors the consultants also worked with the staff nurses in home visits, in clinics, and in schools. Considerable time has been spent in recruitment of personnel. In the eastern part of the state, consultant service has been limited because of three vacancies on the state staff.

In order to help improve public health nursing service throughout the state, the consultants planned a continuous staff education program. A two weeks refresher course in tuberculosis at the North Carolina Tuberculosis Sanatorium at McCain is being offered above five times a year. Fifty-seven nurses have had this course. Groups of nurses have had the privilege of attending at Chapel Hill the Education for Responsible Parenthood course, a five-day Institute on Maternity Nursing conducted by Miss Anita Jones from the Maternity Center Association in New York, and a one-day Institute on Hearing Conservation. Two Venereal Disease Institutes for public health nurses were held at the Eastern Medical Center in Durham. Refresher courses in nutrition have been jointly planned and conducted by the state nutritionists for local health departments all over the state.

The film library and drug service, under the direction of Mr. Roger Whitley, is an important adjunct to the Division of Local Health Administration. A new descriptive film catalog with a short synopsis of each film has been published. In this catalog are listed 150 titles of films on various subjects — general health; certain diseases; and prevention of disease, with titles ranging from Sanitation to Immunizations. Approximately 650 prints are available for distribution not only to health departments but also to schools, P. T. A. organizations, civic clubs, and any other group interested in the welfare of the community. The drug service is available to health departments, private physicians, and the rapid treatment centers at Charlotte and Durham. During the biennium drugs to the amount of \$110,290.09 were distributed. (Penicillin was the principal drug distributed.) The breakdown was as follows:

Health Departments .....	\$82,911.13
Private Physicians .....	4,970.94
Rapid Treatment Centers .....	22,408.02

The program of furnishing drugs for the treatment of both syphilis and gonorrhea to local health department clinics and to physicians in the state for the treatment of patients has been continued by the State Board of Health.

Since the beginning of the rapid treatment centers for venereal disease, approximately 38,000 persons have been admitted to them. At present the admission rate is about 700 per month. The majority of these patients have infectious syphilis.

The main functions of the clinics have become:

1. The location and diagnosis of new cases.
2. Treatment of gonorrhea and a few cases of syphilis which cannot come to the rapid treatment centers.

3. Post treatment observation of patients who have received rapid treatment.

During November, 1947, a one-day meeting for health officers was held at each rapid treatment center. Lectures on the most recent methods of venereal disease control were given by specialists in this field. The health officers requested similar re-training periods of longer duration for their nurses and public health investigators who concentrate on venereal disease control. During the spring, 3 institutes of five days each were held at the Durham Rapid Treatment Center with the cooperation of the Professors at the School of Public Health at Chapel Hill.

Pertinent data relative to the financial cost of local health departments is shown in Table No. 1-A and in Table No. 1-B.

TABLE No. 1-A—DATA ON FULL-TIME COUNTY, DISTRICT, AND CITY HEALTH SERVICES—N. C.—FISCAL YR. 1946-47

County, City or District	1940 Popu- lation	Date Organized	Total Budget			Sources of Funds and Amounts										Full-Time Personnel				
			Amount	Per Cap.	State Allot- ment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H. O.	Off.	PHN	Sant.	C'k. Off.	Dent. Wks.				
Alamance	57,427	1938	\$ 32,200.00	.561	\$ 2,040	.036	\$ 24,040.00	.419	\$ 6,120	.107	1		4	3fu	2	20				
Alleghany-Ashle-Watauga	49,119	1935-38	24,078.99	.490	4,620	.094	10,698.99	.218	8,760	.178	1		3	2	4	34				
Anson-Montgomery	44,723	1938-42	32,770.97	.773	3,900	.087	20,590.97	.460	8,289	.185	1		5	2	1	40				
Avery-Mitchell-Yancey	46,743	1935-44-35	24,013.88	.514	3,920	.084	8,063.88	.173	12,000	.257	1		4	1	3	30				
Beaufort-Hyde	44,291	1923-37	24,135.11	.545	4,100	.093	12,655.11	.286	7,380	.167	1		3	2fu	2	16				
Bertie-Chowan	37,773	1934-37	25,180.86	.667	3,600	.095	13,960.86	.370	7,620	.202	1		3	2	2	22				
Bladen	27,156	1921	15,980.00	.588	1,680	.062	8,180.00	.301	6,120	.225	1		2	1	1					
Buncombe (Ex A)	57,445	1913	27,635.00	.481	2,040	.036	22,415.00	.310	3,180	.055	1		3	2	1	33				
Burke-Caldwell-McDowell	97,406	1937-45	43,848.44	.450	5,160	.053	25,728.44	.264	12,960	.133	1		6	4fu	3	40				
Cabarrus	59,393	1919	53,686.00	.904	2,040	.034	38,106.00	.642	13,540	.228	1		98	5fu	3ed	22				
Carteret	18,284	1941	17,124.62	.937	2,040	.112	9,984.62	.546	5,100	.279	1		3	1	1	16				
Catawba-Lenoir	75,840	1938-40	47,590.80	.626	3,900	.051	32,740.80	.452	10,860	.143	1		4	4	5ed	22				
Cherokee-Clay-Graham	31,636	1937-36	28,273.96	.894	4,280	.135	11,193.96	.354	12,800	.405	1		4	2	3	18				
Cleveland	58,055	1938	25,355.00	.437	2,040	.035	15,515.00	.295	7,800	.134	1		4	2fu	2	20				
Columbus	45,063	1921	19,320.00	.423	1,680	.037	11,520.00	.267	6,120	.134	1		2	1	2	20				
Craven	31,298	1921	31,941.54	1.021	2,040	.066	19,701.54	.629	10,200	.326	1		4	2	3b	13				
Cumberland	59,320	1919	64,172.26	1.082	2,280	.038	39,092.26	.659	22,800	.384	1	1e	108	5fu	8ed	13				
Currituck-Dare	12,750	1937-38	20,025.69	1.571	3,900	.306	8,925.69	.700	7,200	.565	1		2	2	1	15				
Davidson	53,377	1917	24,144.00	.452	1,860	.035	17,364.00	.325	4,920	.092	1		2	2	1	20				
David-Stokes-Yadkin	58,292	1938-31	26,126.14	.449	3,900	.067	12,086.14	.208	10,140	.174	1		6	1	2					
Duplin	39,739	1934	16,892.00	.425	1,680	.042	10,382.00	.261	4,830	.122	1		2	1	1	10				
Durham	80,244	1913	141,063.00	1.758	2,280	.028	114,383.00	1.425	24,400	.304	2	1e	178	9fu	124,5ed	18				
Edgecombe-FX R.M.	36,762	1919	33,157.81	.902	1,920	.052	21,517.81	.585	9,720	.264	1		4	2fu	2	20				
Forsyth-Winston-Salem	126,475	1913	156,547.00	1.298	2,280	.018	133,967.00	1.059	20,300	.161	3	1e	198	9fu	144,5ed	40				
Franklin	30,382	1930	11,432.00	.376	1,680	.055	5,912.00	.195	3,840	.126	1		1	1	1					
Franklin	87,531	1928	53,342.08	.609	2,040	.023	42,142.08	.481	9,160	.105	1	1e	108	3fu	4	20				
Gaston	29,344	1919	24,226.60	.826	2,040	.070	16,786.60	.572	5,400	.184			4	2fu	1	20				
Granville	18,548	1937	17,044.03	.919	1,840	.100	10,924.03	.583	4,260	.230	1		2	1	1	20				

TABLE NO. 1-A—(Continued)

County, City or District	1940 Popu- lation	Date Organized	Total Budget		Sources of Funds and Accruals							Full-Time Personnel					
			Amount	Per Cap.	State Allot- ment	Per Cap.	Local Appropriation	Per Cap.	Oth. Ac- cru- als	Per Cap.	H.O.	Oth. Med. Off.	PHN	Sant.	Ck. Oth.	Dent. Wrs	
Guilford Ex G & H.T.	56,102	1911	24,024.00	.428	2,040	.036	20,544.00	.366	1,440	.026	1	1		3	2	35	
Halifax	56,512	1919	41,060.00	.727	1,180	.035	27,800.00	.492	11,280	.200	1	1		5	36a	20	
Harnett	44,239	1936	23,949.00	.541	2,040	.046	17,829.00	.403	4,080	0.2	1	1		3	1	10	
Haywood-L.N.-S-T	94,468	34-36-37	41,631.30	.441	9,300	0.8	18,231.30	.1.3	14,100	.149	1	1		8	3	6b	
Iredell	50,524	1942	23,290.81	.462	2,040	.040	15,310.81	.504	5,940	.118	1	1		2	2	20	
Jackson	68,768	1937	20,858.02	.327	2,040	.032	13,178.02	.207	5,640	.088	1	1		2	1	29	
Lee	18,743	1946	13,340.00	.712			8,705.00	.404	4,685	.217	1	1		2	1	10	
Lenoir	41,211	1917	37,333.50	.906	1,800	.045	26,373.50	.640	9,100	.221	1	1		68	2	20	
Martin	26,111	1938	19,721.43	.755	2,040	.078	12,101.43	.463	5,580	.214	1	1		2	1	20	
Mecklenburg Ex. C	50,927	1918	32,905.00	.646	2,040	.040	28,105.00	.552	2,760	.054	1	1		5	2	21	
Moore-Hoke	45,506	1928-33	28,320.00	.617	3,500	.076	13,420.00	.292	11,400	.248	1	1		4	1	30	
Nash Ex. R.M.	42,440	1915	27,803.00	.655	2,040	.048	16,403.00	.383	9,360	.241	1	1		3	26a	20	
New Hanover	47,935	1913	89,968.88	1.877	2,280	.048	69,668.88	1.453	18,020	.376	1	1		158	8	31	
Norhampton-H-G	57,711	1917-36-40	41,088.36	.712	5,540	0.6	19,708.36	.342	15,840	.274	1	1		7	2	24	
Oswalo-Pender	35,049	1941	30,848.61	.865	4,500	.126	16,028.61	.450	10,320	.289	1	1		5	2	15	
Orange-Person-Chatham	72,827	1935-37	68,019.66	.935	6,300	.087	30,134.66	.414	31,665	.435	2	2		98	4	30	
Pasquotank-Perquimans-Cam	35,781	42-43-43	36,477.07	1.019	5,280	.148	21,567.70	.603	9,600	.268	1	1		5	36a	28	
Pitt	61,244	1917	38,220.00	.624	2,040	.033	26,400.00	.431	9,780	.160	1	1		5	26a	20	
Randolph	44,554	1927	23,293.69	.522	1,680	.038	15,283.69	.343	6,300	.141	1	1		3	1	20	
Richmond	36,810	1924	24,717.00	.671	1,800	.051	15,117.00	.411	7,740	.210	1	1		4	26a	20	
Robeson	76,860	1912	30,278.00	.394	2,040	.026	17,538.00	.228	10,700	.139	1	1		4	26a	40	
Rockingham-Caswell	77,930	1940-44	39,374.31	.505	3,520	.045	23,434.31	.301	12,420	.159	1	1		5	40	18	
Rowan	69,206	1918	32,036.50	.463	2,040	.029	21,176.50	.306	8,820	.127	1	1		68	2	26d	
Rutherford-Polk	57,451	1924-28	30,184.99	.525	3,900	.068	14,524.99	.253	11,700	.165	1	1		4	36a	30	
Sampson	47,440	1913	23,967.54	.505	1,800	.039	12,207.54	.257	9,900	.209	1	1		4	1	20	
Seotland	23,232	1943	17,687.00	.761	2,040	.068	9,947.00	.428	5,700	.245	1	1		4	1	12	
Stanley	32,834	1937	21,066.52	.667	2,040	.062	15,186.52	.463	4,680	.143	1	1		3	3	1	
Surry	41,783	1919	27,960.00	.670	1,800	.045	17,310.00	.414	8,820	.211	1	1		4	26a	2	



TABLE NO. 1-A—(Continued)

County, City or District	1940 Popu- lation	Date Organized	Total Budget		Sources of Funds and Amounts								Full-Time Personnel					
			Amount	Per Cap.	State Allo- ment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H.O.	O. b. Med. Off.	PHN	Sant.	Chk. Orth.	Dent. Wks.		
Tyrell-Washington	17,879	1937	15,256.82	.853	3,500	.166	5,216.82	.292	6,540	.366			2	1	2			
	39,067	1938	22,126.58	.566	2,040	.652	12,166.58	.311	7,920	.203	1		2	20	2	10		
	53,106	1920-45	28,507.44	.537	2,700	.651	15,127.44	.285	10,680	.201	1		4	2	2	35		
	109,544	1918	77,143.38	.704	2,280	.621	61,323.38	.560	13,540	.124			118	50	96d, 1.6			
	58,328	1920	63,726.00	1.063	2,010	.636	41,436.00	.710	21,250	.347	1		78	31	96d, 1.6	40		
	43,063	1920	15,755.59	.366	1,680	.639	8,375.59	.195	5,700	.133	1		2	1	1			
Wilson	50,219	1916	32,334.33	.644	1,800	.637	21,834.33	.435	5,610	.112	1		1	1	4			
TOTAL	3,196,250		\$2,226,382.80	.697	\$172,600	.054	\$1,450,322.80	.454	\$ 603,460	.189	62	4	306	149	192	1,292		
Asheville	51,310	1923	\$ 88,224.00	1.719	480	.009	70,044.00	1.365	17,700	.345	1		128	60	Shay	19		
	100,899	1918	205,817.75	2.040	480	.005	186,327.75	1.847	19,010	.188	3		278	140	286, ved	23		
	59,319	1923	75,792.50	1.278	480	.008	57,712.50	.973	17,000	.297	1	1	108	40	61d, 1.6			
	38,465	1937	47,605.00	1.237	480	.012	37,225.00	.967	9,900	.257	1		8	30	26			
	25,568		42,047.00	1.645	480	.019	33,887.00	1.325	7,680	.300			4	2	50, ed	20		
TOTAL	275,591		\$ 459,486.25	1.667	\$ 2,400	.009	\$ 385,196.25	1.398	\$ 71,800	.261	6	1	61	29	47	88		
GRAND TOTAL	3,471,841		\$2,685,869.05	.774	\$ 175,000	.050	\$1,835,519.05	.529	\$ 675,350	.195	68	5	367	178	239	1,290		

## NOTES

e—Epidemiologist  
s—Supervisory Nurse  
fu—Follow-up Worker  
t—Technician

ed—Health Educator  
n—Nutritionist  
v—Veterinarian

A—Asheville  
C—Charlotte  
G—Greensboro

Ex.—Exclusive of:

HP—High Point  
RM—Rocky Mount

Included with the total personnel under Public Health Nurses, Sanitation Personnel, Clerks, and Others, are the Clinic Nurses, Follow-up Workers, and Venereal Disease Clerks, Respectively.

TABLE No. 1-B—DATA ON FULL-TIME COUNTY, DISTRICT, AND CITY HEALTH SERVICES—N. C.—FISCAL YR. 1947-48

County, City or District	1940 Popu- lation	Date Organized	Total Budget		Sources of Funds and Amounts						Full-Time Personnel					
			Amount	Per Cap.	State V. D. & State Allotment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H.O.	Oth. Med. (ft)	PHN	Surt.	Clk. oth.	Dent. Wks.
			\$		\$		\$		\$							
Alamance.....	57,427	1938	33,370.00	.581	4,260	.074	23,890.00	.416	5,220	.091	1	1	4	2	2	20
Alleghany-Ashe-Watauga.....	49,119	1935-38	28,058.40	.571	6,240	.127	13,925.40	.284	7,890	.161	1	1	3	2	3	19
Anson-Montgomery.....	44,723	1938-42	33,900.00	.758	6,060	.136	21,150.00	.473	6,690	.150	1	1	4	2	3	3
Avery-Mitchell-Vance.....	46,743	1935-44-35	27,059.85	.579	6,620	.142	10,676.85	.228	9,763	.209	1	1	5	1	3	26
Beaufort-Hyde.....	44,291	1923-37	25,245.11	.570	5,880	.133	12,915.11	.262	6,450	.146	1	1	3	21	2	33
Bertie-Chowan.....	37,773	1934-37	25,511.39	.675	5,400	.143	13,781.39	.365	6,330	.168	1	1	3	1	2	33
Bladen.....	27,156	1921	16,190.00	.596	3,000	.110	8,180.00	.301	5,010	.184	1	1	2	1	1	33
Buncombe (Ex. A).....	57,445	1913	26,575.00	.463	2,040	.036	20,845.00	.363	3,690	.064	1	1	2	2	1	33
Burke-Caldwell-McDowell.....	97,406	1937-45	49,023.62	.503	9,300	.095	30,273.62	.311	9,450	.097	1	1	6	41	3	40
Cabarrus.....	59,393	1919	63,703.60	1.073	5,340	.030	46,653.60	.786	11,710	.197	1	1	88	41	5ed	20
Carteret.....	18,284	1941	21,038.40	1.151	3,240	.177	13,448.40	.736	4,350	.238	1	1	2	1	1	16
Catawba-Lenoir-Alexander.....	89,294	1938-40-47	84,462.29	.946	8,700	.097	63,822.29	.711	12,240	.137	1	1	98	7	7ed	40
Cherokee-Clay-Graham.....	31,636	1937-36	31,561.09	.998	7,220	.228	14,334.09	.453	10,007	.316	1	1	3	2	3	20
Cleveland.....	58,055	1938	28,990.04	.499	4,380	.075	18,760.04	.323	5,850	.101	1	1	3	31	2	10
Columbus.....	45,663	1921	21,818.67	.478	3,660	.080	13,388.67	.293	4,770	.104	1	1	2	1	2	20
Craven.....	31,298	1921	37,506.12	1.198	3,900	.125	24,756.12	.791	8,850	.283	1	1	4	2	4b	13
Cumberland.....	56,320	1919	60,018.96	1.012	10,080	.170	34,663.96	.589	14,975	.252	1	1	88	41	5d	13
Currituck-Dare.....	12,750	1937-38	20,024.94	1.571	4,620	.362	7,574.94	.594	7,830	.614	1	1	2	2	1	20
Davidson.....	53,377	1917	26,880.00	.504	3,360	.063	18,000.00	.337	5,520	.103	1	1	2	2	1	20
Davie-Stokes-Yadkin.....	58,222	1938-31	27,366.84	.470	6,000	.103	12,216.84	.210	9,150	.157	1	1	5	1	2	20
Duplin.....	39,739	1934	22,825.00	.574	2,880	.072	14,995.00	.377	4,950	.125	1	1	3	1	1	20
Durham.....	80,244	1913	156,088.46	1.945	9,180	.114	128,508.46	1.601	18,350	.229	2	2	178	91	30b	18
Edgecombe (Ex. R.M.).....	36,762	1919	40,768.25	1.109	3,840	.104	28,678.25	.780	8,250	.224	1	1	4	21	3	20
Forsyth-Winston-Salem.....	126,475	1913	176,823.00	1.398	9,780	.077	152,493.00	1.206	14,550	.115	3	1e	198	111	16c,d,b,c,d	20
Franklin.....	30,382	1920	13,680.94	.450	2,880	.065	7,200.94	.237	3,600	.118	1	1	1	1	1	20
Gaston.....	87,531	1928	82,732.03	.945	5,640	.064	69,442.03	.793	7,650	.087	2	2	148	51	6f	20
Granville.....	29,344	1919	25,946.07	.884	3,360	.115	18,116.07	.617	4,470	.152	1	1	4	31	3	20
Greene.....	18,548	1937	17,492.54	.943	2,460	.133	11,042.54	.595	3,990	.215	1	1	2	1	1	20

TABLE No. 1-B—(Continued)

County, City or District	1940 Popu- lation	Date Organized	Total Budget		Sources of Funds and Amounts							Full-Time Personnel					
			Amount	Per Cap.	State V. D & State Allotment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H.O.	Orth. Med. Off.	PHN	Sant.	Clk. Oth.	Dent. Wks.	
Guilford Ex. G. & H.P.	56,102	1911	30,390.00	.542	2,040	.036	26,400.00	.471	1,950	.035	1	---	4	1	2ed	26	
Halifax	56,512	1919	50,283.41	.890	4,140	.073	36,093.41	.649	9,450	.167	1	---	6	3	3	20	
Harriet	44,239	1936	25,975.00	.587	3,540	.080	19,135.00	.433	3,300	.075	1	---	3	1	---	10	
Haywood-J.M.-S.T(2mo.)	82,227	1934-36-37	41,792.27	.508	9,220	.112	21,113.27	.257	11,459	.139	1	---	6s	2	5b	10	
Henderson-Tennessee	38,290	1947-37	17,095.00	.462	1,580	.041	9,095.00	.238	7,020	.183	1	---	2	1	2	15	
Hertford-Gates	29,412	1936-40	22,356.73	.760	4,582	.156	10,752.73	.366	7,022	.239	1	---	3	1	2	---	
Iredell	50,424	1942	26,870.16	.533	3,840	.076	18,380.16	.365	4,650	.092	1	---	3	2	2	20	
Johnston	63,798	1937	23,648.82	.371	3,840	.060	15,368.82	.241	4,440	.070	1	---	2	1	1	20	
Lenoir	41,211	1917	35,335.15	.857	3,660	.089	24,925.15	.583	7,650	.186	1	---	6	2	2	---	
Martin	26,111	1938	22,143.15	.848	2,940	.113	13,773.15	.527	5,430	.208	1	---	2	1	1	20	
Mecklenburg (Ex. C.)	50,927	1918	46,855.00	.920	2,040	.040	41,665.00	.818	3,150	.062	1	---	8	2	2d	---	
Moore-Hoke	45,906	1928-43	34,537.00	.752	5,900	.129	19,187.00	.418	9,450	.206	1	---	5	1	3	30	
Nash (Ex. R.M.)	42,440	1915	30,430.00	.717	4,440	.105	18,400.00	.434	7,590	.179	1	---	3	2i	2ed	20	
New Hanover	47,935	1913	94,181.30	1.965	6,780	.141	73,731.30	1.538	13,670	.285	1	---	15s	7	12b,1	20	
Northampton	28,299	1917	24,401.09	.862	3,498	.124	13,975.00	.494	6,928	.245	1	---	3	1	1	---	
Onslow-Pender	35,649	1941	30,508.23	.856	6,300	.177	15,058.23	.422	9,150	.257	1	---	5	2	2	---	
Orange-P.C.	91,570	1935-37-46	90,823.69	.992	12,780	.140	46,773.69	.511	31,270	.341	2	---	10s	2	4	40	
Pasquotank-Perquimans-Cam.	35,781	1942-43-43	37,071.75	1.036	7,080	.198	21,921.75	.613	8,070	.226	1	---	5	2	2	10	
Pitt.	61,244	1917	36,756.00	.600	4,140	.068	24,366.00	.398	8,250	.135	1	---	5	2i	2	20	
Randolph	41,554	1927	26,191.34	.588	4,080	.092	17,461.34	.392	4,650	.104	1	---	3	1	1	20	
Richmond	36,810	1924	30,419.00	.826	3,600	.099	20,480.00	.557	6,270	.170	1	---	3	2i	1	20	
Robeson	76,860	1912	33,820.00	.440	5,340	.069	19,330.00	.251	9,150	.119	1	---	4	2i	2	---	
Rockingham-Caswell	77,930	1940-44	51,777.45	.664	6,820	.088	35,507.45	.456	9,450	.121	1	---	5s	4i	5ed	40	
Rowan	69,206	1918	36,789.50	.532	4,560	.066	24,279.50	.351	7,950	.115	1	---	5s	2	2ed	15	
Rutherford-Polk	57,451	1924-38	36,386.02	.633	6,300	.110	20,036.02	.349	10,050	.175	1	---	4	3i	4ed	22	
Sampson	47,440	1913	26,135.30	.551	3,960	.083	13,625.30	.287	8,550	.180	1	---	4	1	2	20	
Scotland	23,232	1943	23,182.00	.998	3,540	.152	14,972.00	.644	4,670	.201	1	---	4	1	1	11	
Stanly	32,834	1937	23,720.73	.722	3,240	.099	16,130.73	.491	4,350	.132	1	---	3	1	1	20	

TABLE No. 1-B--(Continued)

County, City or District	1940 Popu- lation	Date Organized	Total Budget		Sources of Funds and Amounts								Full-Time Personnel			
			Amount	Per Cap.	State V. D & State Allotment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H.O.	Orth. Med. Off.	PHN	Nurs.	Chk. Orth.	Dent Wigs.
Surry	41,783	1919	30,770.00	.736	3,660	.088	19,460.00	.466	7,650	.183	1	1	4	1	4	---
Tyrrrell-Washington	17,879	1937	16,918.15	.946	4,220	.256	5,948.15	.333	6,750	.378	1	1	2	1	2	---
Union	39,097	1938	23,847.20	.609	3,540	.091	13,407.20	.343	6,870	.176	1	1	2	2	3	10
Vance	29,961	1920	15,050.34	.502	2,820	.094	7,860.34	.262	4,370	.146	1	1	2	1	1	---
Wake	109,544	1918	91,798.97	.838	6,900	.063	72,838.97	.665	12,060	.110	2	1	11	5	96d	---
Warren	23,145	1945	14,996.62	.648	2,700	.117	8,296.62	.356	4,000	.175	1	1	2	1	1	---
Wayne	58,328	1920	63,397.50	1.087	5,920	.101	42,707.50	.732	14,770	.253	1	1	78	4	7	40
Wilkes	43,003	1920	17,024.40	.396	4,080	.095	8,894.40	.207	4,050	.094	1	1	2	1	1	---
Wilson	50,219	1916	32,800.00	.653	3,960	.079	22,840.00	.455	6,000	.119	1	1	4	1	3cd	---
TOTAL	3,233,753		\$2,541,658.88	.785	\$ 320,960	.099	\$1,707,574.88	.528	\$ 513,124	.159	69	1	311	150	214	975
Asheville	51,310	1923	\$ 99,030.00	1.930	\$ 7,440	.145	\$ 79,140.00	1.542	\$ 12,450	.243	1	1	128	5	12t,v,b,cd	20
Charlotte	100,899	1918	228,220.50	2.262	9,480	.094	206,890.50	2.050	11,850	.117	3	1	258	14	25v,d,t,b,cd	---
Greensboro	59,319	1923	78,230.00	1.319	7,140	.120	58,440.00	.985	12,650	.213	1	1	108	4	6cd,b	---
High Point	38,495	1937	49,130.00	1.276	2,700	.070	38,060.00	.989	8,370	.217	1	1	8	3	3b	26
Rocky Mount	25,568		44,310.00	1.733	2,280	.089	35,280.00	1.380	6,750	.264	1	1	4	2	6b	20
TOTAL	275,591		\$ 498,920.50	1.810	\$ 29,040	.105	\$ 417,810.50	1.516	\$ 52,070	.189	7	1	59	28	52	66
GRAND TOTAL	3,511,344		\$3,040,579.38	.866	\$ 3 0,000	.100	\$2,125,385.38	.695	\$ 565,194	.161	76	2	370	178	266	1,041

## NOTES

Ex--Exclusive of:

e--Epidemiologist  
 s--Supervisory Nurse  
 i--Public Health Investigator  
 d--Dentist  
 b--Bacteriologist  
 t--Technician  
 ed--Health Educator  
 n--Nutritionist  
 v--Veterinarian  
 A--Asheville  
 C--Charlotte  
 G--Greensboro  
 HP--High Point  
 RM--Rocky Mount

Included with the total personnel under Public Health Nurses, Sanitation Personnel, Clerks, and Others, are the Clinic Nurses, Public Health Investigators, and Venereal Disease Clerks, Respectively.

The statistical record of work performed by types of services during the biennium in the 96 counties and 5 cities operating a full-time health service on June 30, 1948, is shown in Table No. 2.

During the biennium 559,677 persons were given injections of typhoid vaccine and 34,719 miscellaneous injections were given for protection against Influenza, Tetanus, Rocky Mountain Spotted Fever, Measles, etc.

Since a change in the reporting of immunizations has been made, the table below is only for 1947.

We believe that the change in the report is a progressive step because from the method used now one is able to determine and analyze the immunity status of certain age groups. This can be known for the community as a whole because many of the health departments are endeavoring to get reports of the immunizations done by private physicians and include these in the total figure. This is as it should be since under the law private physicians are supposed to report immunizations done by them to the health department.

In the table below it is seen that the number of children *under 1* reported as immunized against diphtheria is only 15,809. When one considers that the number of resident live births for 1947 was 111,282, this low percentage of 14.2 presents a challenge to the parents, health department, and community to have the children immunized before they are a year old.

### DIPHTHERIA, WHOOPING COUGH, & SMALLPOX VACCINATIONS FOR 1947 BY AGE BREAKDOWN

	A G E				
	Under 1 yr.	1 year	2 years	3 years	4 years
Diphtheria	15,809	7,692	5,682	4,895	5,616
Whooping Cough	15,212	6,338	4,821	4,622	4,471
Smallpox	2,316	1,356	1,636	2,333	5,133

## ACTIVITIES OF LOCAL HEALTH DEPARTMENTS

JULY 1, 1946-JUNE 30, 1948

	White	Colored	Indian	Total
<b>COMMUNICABLE DISEASE CONTROL</b>				
Admissions to service.....	12,539	4,053	72	16,664
Consultations with physicians.....	933	193	11	1,137
Field Visits:				
Diphtheria.....	2,636	1,235	92	3,963
Typhoid fever and paratyphoid fever.....	265	159	3	427
Scarlet fever.....	2,996	180	1	3,177
Smallpox.....	24	5		29
Measles.....	3,122	796	13	3,931
Whooping cough.....	4,941	2,045	22	7,008
Other communicable diseases.....	5,022	2,647	66	7,735
Epidemiological investigative visits.....	5,498	2,238	63	7,799
Admissions to hospitals:				
Diphtheria.....	1,429	27	3	1,459
Typhoid fever and paratyphoid fever.....	45	20		65
Scarlet fever.....	46	10		56
Smallpox.....	18	3		21
Other (specify).....	940	569	2	1,511
Public lectures and talks.....	1,358	177		1,535
Attendance.....	6,497	2,637		9,134

## B. VENEREAL DISEASE CONTROL

	Syphilis		Gonorrhea	Other V.D.
	Early	All Other		
Admitted to Clinics:				
Previously untreated.....	12,551	2,373	26,552	1,428
Previously treated.....	2,450	1,293	2,240	117
Referred to Rapid Treatment Center (treated and untr.)	12,191	3,576	250	457
				Totals
Sexual contacts from previously untreated cases.....	9,822	551	17,943	28,316
Civilian contacts reported for investigation.....	25,398	1,284	20,177	46,859
Contacts examined.....	14,076	751	12,271	27,098
Found infected.....	7,178	303	7,126	14,607
Found not infected.....	6,898	448	5,145	12,491
Interviews.....				38,503
Field visits.....				92,688
Tests for Syphilis.....				432,904
Tests for Gonorrhea.....				114,379

## ACTIVITIES OF LOCAL HEALTH DEPARTMENTS—(Continued)

	White	Colored	Indian	Total
<b>TUBERCULOSIS CONTROL</b>				
Individuals admitted to medical service.....	201,011	88,227	822	290,060
Individuals admitted to nursing service.....	20,086	16,078	285	36,449
Physical examinations in clinics.....	75,392	28,417	48	103,857
X-ray examinations.....	230,321	85,692	280	316,293
Clinic visits.....	234,539	98,181	822	333,542
Visits to private physicians.....	1,192	589	2	1,783
Field nursing visits.....	40,219	40,170	502	80,891
Office nursing visits.....	10,076	5,537	214	15,827
Admissions to sanatoria.....	1,438	1,058	19	2,515
Tuberculin tests over age 20.....	16,343	7,946	58	24,347
Fluoroscopes on T. B. Patients.....	28,876	19,571	248	48,695
Public lectures and talks.....	550	148	1	699
Attendance.....	18,983	6,648	150	25,781
<b>MATERNITY SERVICE</b>				
Cases admitted to antepartum medical service.....	2,065	16,824	205	19,094
Cases admitted to antepartum nursing service.....	5,212	19,274	75	24,561
Visits by antepartum cases to medical conferences.....	5,681	37,925	429	44,035
Visits by antepartum cases to private physicians.....	598	890	35	1,523
Field nursing visits to antepartum cases.....	9,774	20,778	85	30,637
Office nursing visits by antepartum cases.....	3,371	25,757	70	29,198
Cases attended by nurses for delivery service.....	31	160	3	194
Cases given postpartum medical examination.....	704	2,800	12	3,516
Cases given postpartum exam. by private physician.....	720	547	-----	1,267
Cases admitted to postpartum nursing service.....	7,845	13,296	40	21,181
Nursing visits to postpartum cases.....	15,484	25,978	52	41,514
Admissions contraceptive service.....	3,301	3,381	50	6,732
Visits—contraceptive service.....	6,620	7,173	66	13,859
Midwives registered for formal instruction.....	241	1,406	16	1,663
Midwife meetings.....	67	363	-----	430
Attendance at meetings.....	217	2,308	8	2,533
Visits for midwife supervision.....	634	7,111	51	7,796
Other service (specify).....	755	1,505	34	2,294
Public lectures and talks.....	78	113	-----	191
Attendance.....	886	1,117	6	2,009
Enrollment in maternity classes.....	382	1,366	-----	1,748
Attendance.....	598	2,547	-----	3,145
<b>INFANT AND PRESCHOOL HYGIENE</b>				
<b>Infants:</b>				
Individuals admitted to medical service.....	5,773	16,668	54	22,495
Individuals admitted to nursing service.....	22,446	27,712	133	50,291
Visits to medical conferences.....	16,308	33,846	73	50,227
Visits to private physicians.....	1,470	685	2	2,157
Field nursing visits.....	47,489	45,681	212	93,382
Office nursing visits.....	9,969	19,889	197	30,055
Other service (specify).....	350	969	1	1,320
<b>Preschool:</b>				
Individuals admitted to medical service.....	36,752	17,853	405	55,010
Individuals admitted to nursing service.....	34,216	22,553	219	56,988
Visits to medical conferences.....	46,482	27,550	415	74,447
Visits to private physicians.....	818	263	-----	1,081
Field nursing visits.....	39,055	26,092	306	65,453
Office nursing visits.....	25,144	17,353	180	42,677
Inspections by dentists or dental hygienists.....	3,142	573	4	3,719
Prophylaxis by dentists or dental hygienists.....	607	131	-----	738
Other service (specify).....	6,744	3,324	164	10,232
Public lectures and talks.....	195	67	8	270

## ACTIVITIES OF LOCAL HEALTH DEPARTMENTS—(Continued)

	White	Colored	Indian	Total
<b>INFANT AND PRESCHOOL HYGIENE—Continued</b>				
Attendance.....	4,887	1,325	412	6,624
Enrollment in infant and preschool classes.....	988	1,211	6	2,205
Attendance.....	8,325	12,153		20,478
<b>SCHOOL HYGIENE</b>				
Inspections by physicians or nurses.....	615,632	183,539	4,089	802,660
Examinations by physicians.....	104,457	31,176	1,168	136,741
Examinations by physicians with parents present.....	21,355	5,504	92	26,951
Individuals admitted to nursing service.....	47,588	23,076	263	70,927
Field nursing visits.....	52,891	21,491	150	74,532
Office nursing visits.....	48,777	24,350	420	73,547
Inspections by dentists or dental hygienists.....	70,417	39,362	862	110,641
Prophylaxis by dentists or dental hygienists.....	70,668	34,628	272	85,559
Other service (specify).....	35,116	16,344	1,486	52,946
Public lectures and talks.....	1,569	516	17	2,102
Attendance.....	82,826	25,219	167	109,012
Classroom health talks.....	7,162	3,267	268	10,727
Attendance.....	264,307	168,130	2,820	375,257
<b>ADULT HYGIENE</b>				
Medical Examinations:				
Milk handlers.....	12,754	9,234	18	22,046
Other food handlers.....	56,584	23,945	306	80,835
Midwives.....	263	782	14	1,159
Teachers.....	7,439	2,419	10	9,908
Other (specify).....	12,955	7,173	49	20,177
<b>MORBIDITY SERVICE</b>				
Admissions to medical service.....	8,502	6,179	11	14,692
Admissions to nursing service.....	9,162	4,358	57	13,577
Clinic visits.....	15,156	12,313	11	27,480
Field medical visits.....	2,753	1,578	9	4,340
Field nursing visits.....	29,832	14,859	137	44,828
Office nursing visits.....	11,121	3,555	30	14,706
Admissions to hospitals.....	3,151	1,636	7	4,794
Total patient-days of hospital service.....	40,004	17,571		57,575
Individuals admitted to dental service.....	2,572	57	15	2,644
Refractions.....	2,168	1,121	42	3,331
Tonsil and adenoid operations.....	946	310	7	1,263
Other service (specify).....	1,058	337		1,395
<b>CRIPPLED CHILDREN SERVICE</b>				
Individuals admitted to medical service in clinics.....	8,165	2,556	105	10,826
Individuals admitted to nursing service.....	4,561	1,802	60	6,423
Visits to clinics.....	14,682	4,362	269	19,313
Nursing visits.....	10,608	4,705	130	15,443
Other service (specify).....	761	358	67	1,186
Public lectures and talks.....	44	7	1	52
Attendance.....	468			468
<b>GENERAL SANITATION</b>				
Approved individual water supplies installed.....	2,203	208	2	2,413
New privies installed.....	4,066	1,736	3	5,805
New septic tanks installed.....	13,942	433	3	14,428
Field Visits:				
Private premises.....	132,154	49,009	28	181,191
Camp sites.....	1,077	88	5	1,170
Swimming pools.....	637	45		682



## ACTIVITIES OF LOCAL HEALTH DEPARTMENTS—(Continued)

	White	Colored	Indian	Total
GENERAL SANITATION—Continued				
Barber shops and beauty parlors.....	89	40	.....	129
Schools.....	5,648	2,573	29	8,250
Public water supplies.....	.....	.....	.....	3,722
Sewerage plants.....	.....	.....	.....	30,447
Other (specify).....	.....	.....	.....	22,137
Buildings mosquito proofed.....	.....	.....	.....	352
Minor drainage—linear feet completed.....	.....	.....	.....	140,487
Anopheles breeding places eliminated.....	.....	.....	.....	7,355
Anopheles breeding places controlled.....	.....	.....	.....	3,836
Other service (specify).....	.....	.....	.....	20,844
Public lectures and talks.....	467	43	.....	510
Attendance.....	20,613	1,895	.....	22,508
PROTECTION OF FOOD AND MILK				
Food-handling establishments registered for supervision.....	20,471	2,076	59	22,606
Field visits to food-handling establishments.....	116,604	12,145	89	128,838
Dairy farms registered for supervision.....	4,910	21	5	4,936
Field visits to dairy farms.....	30,368	36	9	30,413
Milk plants registered for supervision.....	486	1	3	490
Field visits to milk plants.....	9,486	9	4	9,499
Cows tuberculin tested.....	.....	.....	.....	60,326
Animals slaughtered under inspection.....	.....	.....	.....	331,853
Carcasses condemned in whole or in part.....	.....	.....	.....	92,832
Other service (specify).....	10,226	1,730	.....	11,956
Public lectures and talks.....	560	15	.....	575
Attendance.....	18,342	1,268	.....	19,610
LABORATORY				
Specimens Examined:				
Water—bacteriological.....	.....	.....	.....	20,642
Water—chemical.....	.....	.....	.....	6,635
Milk or milk products.....	.....	.....	.....	60,749
Other food.....	.....	.....	.....	1,228
Typhoid: blood cultures.....	55	20	.....	75
Typhoid: Widal.....	326	45	.....	371
Typhoid: stool cultures.....	622	387	4	1,013
Typhoid: urine cultures.....	64	21	.....	85
Diphtheria cultures.....	6,361	2,664	179	9,204
Undulant fever (human).....	1,084	988	.....	2,072
Bang's disease (animal).....	.....	.....	.....	10,951
Typhus fever.....	534	17	.....	551
Tularemia.....	14	1	.....	15
Malaria.....	710	316	5	1,031
Tuberculosis.....	7,208	4,164	94	11,466
Fees for parasites.....	8,485	3,742	118	12,345
Urinalysis.....	16,153	44,644	94	60,891
Rabies.....	.....	.....	.....	615
Other service (specify).....	10,456	12,926	8	23,390
REPORTABLE DISEASES				
Anthrax (20).....	8	2	1	11
Chickenpox (44a).....	618	113	10	741
Diphtheria (10).....	727	316	18	1,061
Dysentery (13).....	28	8	.....	36
Hookworm (40).....	101	23	18	142
Influenza (11).....	18	.....	.....	18
Malaria (38).....	187	42	5	234
Measles (7).....	4,864	983	40	5,887

## ACTIVITIES OF LOCAL HEALTH DEPARTMENTS—(Continued)

	White	Colored	Indian	Total
REPORTABLE DISEASES—Continued				
Meningococcus meningitis (18).....	134	35	.....	169
Ophthalmia neonatorum (35).....	3	4	.....	7
Pellagra (62).....	2	.....	.....	2
Pneumonia (107 109).....	7	1	.....	8
Poliomyelitis (16).....	652	68	3	723
Puerperal septicemia (145).....	17	2	.....	19
Rabies in man (21).....	8	1	1	10
Rabies in animal.....	.....	.....	.....	176
Scarlet fever (8).....	1,851	113	1	1,665
Smallpox (6).....	11	57	.....	68
Streptococci sore throat (115a).....	80	111	.....	191
Trachoma (88).....	11	13	.....	24
Tuberculosis (23 32).....	3,314	2,354	27	5,695
Tularemia (44c).....	99	78	2	179
Typhoid fever (1).....	82	28	1	111
Typhus fever (3).....	73	9	.....	82
Undulant fever (5).....	31	2	.....	33
Whooping cough (9).....	3,478	1,660	43	5,181
VITAL STATISTICS				
Live births.....	138,411	53,347	1,601	193,359
Still births.....	2,271	1,775	40	4,086
Deaths under one year.....	3,727	2,230	71	6,028
Deaths under one month.....	2,956	1,526	54	4,536
Puerperal deaths.....	84	66	1	151
Total deaths.....	32,542	16,368	242	49,152
Communicable disease deaths:				
Typhoid and paratyphoid fever.....	4	1	.....	5
Measles.....	3	4	.....	7
Scarlet fever.....	2	1	.....	3
Whooping cough.....	4	20	.....	24
Diphtheria.....	20	27	.....	47
Tuberculosis, all forms.....	431	720	11	1,162
Diarrhea and enteritis under two years.....	42	46	.....	88
Number vital statistics visits.....	5,047	3,139	7	8,193
COMMUNICABLE DISEASE CONTROL				
Schick negative (under age 10).....	11,949	3,072	.....	15,021
Schick positive (under age 20).....	2,241	322	.....	2,563
Tuberculin negative (under age 20).....	62,534	23,729	423	86,686
Tuberculin positive (under age 20).....	9,631	6,242	99	15,972
Tuberculosis patients in Burr cottages.....	26	17	.....	43
Attendance preventoria and open air classes.....	94	.....	.....	94
INFANT, PRESCHOOL, AND SCHOOL HYGIENE				
Children referred for medical care.....	113,308	27,431	1,029	141,768
Children with defects corrected.....	49,152	13,812	337	63,301
Teeth.....	28,485	9,884	118	38,487
Tonsils.....	11,399	1,564	115	13,078
Eyes.....	9,268	2,364	104	11,736
GENERAL SANITATION				
Sewer connections new.....	4,932	442	.....	5,374
Sewer connections restored.....	1,605	187	.....	1,792
Complaints investigated.....	24,506	8,770	18	33,294
New water connections.....	7,168	560	.....	7,728

## ACTIVITIES OF LOCAL HEALTH DEPARTMENT—(Continued)

	White	Colored	Indian	Total
<b>GENERAL PUBLIC HEALTH INSTRUCTION</b>				
Newspaper articles published.....				9,895
Circular letters sent out.....				335,106
Bulletins, posters distributed.....				889,072
Health exhibits, special demonstrations.....				18,640
Radio talks.....				1,636
<b>REPORT OF COUNTY PHYSICIANS</b>				
No. of treatments or examinations given at home.....	1,780	1,366	2	3,148
No. of home visits.....	1,828	1,315	2	3,145
No. of treatments or examinations given in office.....	12,692	9,885	42	22,619
Total visits under (3) to office.....	19,353	12,337	32	31,722
No. of visits to county jail.....				5,731
No. of treatments or examinations given in county jail.....	9,322	6,040	85	15,447
No. of visits to county home.....				4,222
No. of treatments or examinations given in county home.....	11,199	5,222	1	16,422
No. of visits to County T. B. Hospital.....				1,098
No. of treatments or examinations given in County T. B. Hospital.....	3,287	3,908		7,195
No. of completed anti-rabic treatments.....	257	11	1	269
No. of treatments, hookworm.....	255	94	42	391
No. of examinations, prisoners.....	5,804	4,562	47	10,413
No. of examinations, teachers.....	3,803	746	7	4,556
No. of examinations, child for industry.....	7,178	1,528	6	8,712
No. of examinations by court order.....	309	131		440
No. of examinations for admission to institution.....	953	571	5	1,529
No. of examinations for lunacy.....	1,051	627	9	1,687
No. of examinations, postmortem.....	40	33		73

## NUTRITION DIVISION

The general plan of the Nutrition Division work, as described in previous reports, remained unchanged, except that more consultation service has been possible on account of the progress which has been made in the program in the past three years.

The Nutrition Division of the North Carolina State Board of Health has two principal objectives; first, to promote a better understanding of the importance of nutrition as a factor in the maintenance of good health; second, to help establish in each community, a sense of responsibility for the nutritional status of each of its citizens. It follows, therefore, that any work carried on by the Division must be based on an appreciation of the needs of the people of the State and of the resources of the State. As a consequence the Division has made an effort to use community resources outside the Health Department in order to avoid duplication of activities and to enhance the effectiveness of nutrition knowledge through joint planning and work with other agencies.

During the period under review work was conducted through the health departments and schools in 28\* counties. The amount of work which is possible in each area will be increased when a larger staff has been employed.

As in previous years limitations have been placed on the work because of the inability to employ and keep the necessary staff. Since the 1947 legislature made it possible to permit higher salaries, these difficulties should be lessened in succeeding years. There is provision in the budget for a director, a principal nutritionist, a consulting dietitian and six field consultants but it has not been possible to secure trained people as the available supply was exhausted in 1947 before the salary increases were confirmed. As of June 30, 1948, there were employed one director and three field consultants. Efforts to increase the staff are still in progress. To facilitate the work, the state has been divided into six districts of about 15 counties each. A consultant is to be located in each district.

Dr. Bertlyn Bosley, Principal Nutritionist, resigned in February 1947 to become Professor of Nutrition at the Woman's College, Greensboro. She has now consented to join the staff again as Director, and will assume her new duties in Raleigh on the 15th of September, 1948.

### Work With Nurses

Nutrition conferences are held at stated intervals with public health nurses throughout the state as a part of the regular work of the Nutrition Division. The smallness of the staff allowed only 54 such meetings during the period with 610 nurses attending. Among the subjects discussed at the meetings were the following: Results of surveys done with school

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\* Buncombe, Forsyth, Surry, Davie, Yadkin, Stokes, Wilkes, Alleghany, Ashe, Watauga, Caldwell, Catawba, Lincoln, Alamance, Guilford, Rockingham, Caswell, Rowan, Cabarrus, Mecklenburg, Gaston, Anson, Montgomery, Scotland, Rutherford, Polk, New Hanover, Pender and the cities and towns in these counties.

children in different sections of the state; methods for presenting nutrition information to various groups of people; nutrition during pregnancy; and newer developments in the field of nutrition.

### **Work With Teachers**

As previously, special assistance has been given to teachers upon request. Eight-hour refresher courses have been provided in counties where the consultants were working. Discussions of subject matter concerning the science of nutrition and information about methods of teaching this subject at the various grade levels has made up the content of the refresher courses. At least 1,152 teachers have voluntarily attended these courses. Following the course of instruction 1,476 teachers, including some who had had refresher courses in previous years, have requested specific help in class room teaching and have conducted nutrition units with their students as a part of their health teaching.

### **Follow-Up of School Work**

The necessity for follow-up of the above described programs, carried out in previous years is recognized. This had been made possible to a degree by the arrangement for the nutrition consultants to work in districts but some of this much needed follow-up was impossible due to the shortage of personnel. Even so, 47 follow-up meetings have been held with the school faculty groups during the year.

### **Surveys**

As a regular part of the nutrition program, dietary surveys were conducted in each new area of work to determine specifically the existing nutritional adequacies or inadequacies. The plan for conducting surveys by questioning 9-11 year old school children for three days concerning the foods eaten at meals and at other times has been described in previous years. During the year 1,129 children were interviewed for survey purposes in 45 schools.

To illustrate survey findings of individual schools or counties summary charts have been constructed by the nutritionists. These have been of two general types, (a) graphs showing the dietary intake of a typical child, and (b) graphs showing percentages of children in the survey receiving various amounts of the basic groups of food. These charts have proved most valuable when reporting the survey findings to teachers, parents or other groups.

### **Summer Work**

During the summers of 1946 and 1947 one of the nutrition consultants gave a series of 10 lectures covering the basic principles of nutrition, and methods and materials of teaching nutrition at various grade levels at the Child Health Conference held by the School-Health Coordinating Service at the University of North Carolina in Chapel Hill. In order to make practical the subject matter of the lectures, experimental feeding tests using rats and guinea pigs were carried out in the laboratory. Personal conferences were held with teachers when requested. Ninety-one teachers attended the lectures.

Similar activities were carried out by one nutritionist at the Appalachian State Teachers College. Five general meetings were held for 72 teachers plus some individual conferences during four days in June 1948.

An Extension Course was given by one nutritionist in the Catawba-Alexander health district. Eighty-seven teachers attended the 6 hour meetings over a period of two days in April 1948.

## Clinics

*General.* The services of the nutritionists were made available in the Health Department clinics. Group discussions and individual instructions were used in the pre-natal, well-baby, and pre-school clinics. Other clinic patients were referred to the nutritionist by the doctor or nurse. Whenever possible a simple demonstration of food preparation to illustrate a way of meeting some specific food need was used in the group discussion. Thirty-seven group discussions and 557 individual conferences were held with 666 people in clinics during the year.

*Orthopedic.* The spastic demonstration nursery (clinic) was in operation in Charlotte for six weeks. The nutritionist met with the food committee and helped plan menus for the entire nursery. She visited the nursery twice a week and had conferences with the attending physician about giving the children thiamine and extra ascorbic acid. The menus were mimeographed and given to each mother and conferences were held with individual mothers about food and its preparation for the children. Approximately 33 children attended the nursery.

## Cooperation

One of the underlying principles of the Nutrition Division is its desire to cooperate with all official and non-official agencies which are interested in and which promote nutrition programs. Considerable progress has been made towards this end.

*Woman's College* of the University furnished consultation service to the Division. Cooperation with the *School of Public Health* and with the *School Lunch* program is still developing.

*Extension Division.* The cooperative work which was projected with the Extension Division of State College has met with considerable success. During the year the Extension workers made dietary surveys in 60 counties of 100 children, 9-11 years of age, in each county. The Survey forms were prepared by the Nutrition Division. The field consultant aided in the surveys when the work reached her territory and she supplied the figures for counties already surveyed. Surveys will be made in the remaining 40 counties during 1948. An analysis of the surveys showed that the greatest deficiency was a lack of Vitamin C foods. Educational work was undertaken in respect to this deficiency. In this cooperative activity 2,354 meetings were held with an approximate attendance of 72,011 people. In addition 295 exhibits were shown in stores, 4-H clubs,

hotels and agricultural buildings, county council meeting and festivals; 216 articles were published, and 28 radio programs were given.

*Health Educators.* Nutrition consultants have worked with the health educators who are attached to local health departments. The health educator has been active in promoting nutrition in her territory, in arranging for refresher courses which are given by the field consultants, and for continuing the work in areas where there are no field consultants. There have been 93 group and individual meetings with 123 in attendance.

*Welfare Department.* The services of the nutritionist were offered to the Alamance County Welfare Department for a nutrition course for the case workers, for group conferences with welfare clientele and for individual conferences with clients. Five two-hour group meetings were held with the case workers for discussions of nutrition and special nutrition problems of low income families. Individual work was done with families. No group meetings were held with welfare clientele due to the difficulty of arranging for travel for them from rural areas. The same type of work with welfare agencies is also carried on in other areas throughout the State. Altogether there were 27 group and individual meetings with 98 in attendance.

*Community Groups.* Whenever an opportunity arises for work with community groups, the services of the nutritionists are available. Such work has been done with P. T. A. study groups, mothers' clubs, G. I. Wives' clubs, lay-leadership training groups, and various other civic groups. When possible this work is carried out as a series of meetings called a nutrition study course or a series of "nutrition parties." Simple food demonstrations are usually given to encourage better methods of food preparation and improved practices of food selection. These are illustrated by use of food share charts and simple flyers or leaflets, which give recipes and suggested menus. When lay leaders are being trained, they are supplied with a set of similar teaching materials to use with their own groups. Three hundred and sixty-seven group meetings with 6,360 in attendance. In addition radio programs and newspaper articles were prepared and the use of films have been made available.

### **Kiwanis Health Camp**

The Kiwanis Health Camp near Salisbury in Rowan County was in operation for 12 weeks in 1946 and a similar time in 1947. The nutritionist met with the planning committee before the camp opened and plans were discussed and decided upon. She and the public health nurses visited the 40 underprivileged children and obtained a 3-day dietary history of each child. The nutritionist met with the nurses and the home economist and helped plan menus and market lists. She visited the camp once each week to help with menus and with the food check sheets which were made out for each child and which were to be checked daily. Considerable improvement was noted among the children during the 12 weeks period in respect to their food habits. One meeting was held with the mothers of the children on **FOOD FOR GROWING CHILDREN**. This camp provides an annual summer activity for the field consultants.

## Food Conservation Program

The Governor designated the State Nutrition Committee as the Food Conservation Program agency in the State. The field consultants served on several of these committees, wrote newspaper articles of general nature, prepared menus, gave radio programs and rendered help in many directions.

## Articles

Members of the staff prepared and published articles as follows:

Bertlyn Bosley, A PRACTICAL APPROACH TO NUTRITION EDUCATION FOR CHILDREN, *Journal of the American Dietetic Association*, Vol. 23, No. 4, April 1947.

W. P. Jacocks, NUTRITION DIVISION OF THE STATE BOARD OF HEALTH, *State Board of Health Bulletin* for October, 1947.

Eunice O. Stott, A CARROT PARTY IS FUN, *Better Health for North Carolina*, Vol. II, No. I, December 1947.

Virginia Wilson and Eunice O. Stott, DO TAR HEEL CHILDREN EAT RIGHT? *Better Health for North Carolina*, Vol. II, No. 4, June-July 1948.

Eunice O. Stott, WHAT ARE YOU EATING, EXPECTANT MOTHER? *Better Health for North Carolina*, Vol. II, No. 4, June-July 1948.

## Conclusion

During the period the work has been gratifying when the small number of workers is considered. One of the problems awaiting solution is the building up of a full staff. This now seems to be entirely practical in so far as the salary scale is concerned and, when accomplished, the results will be greater and more satisfying to the people of the State.



## SCHOOL-HEALTH COORDINATING SERVICE

The School-Health Coordinating Service is an administrative unit of the State Department of Public Instruction and the State Board of Health designed to promote the development and execution of a program of health education and health service in the public schools of North Carolina.

Shortage of personnel handicapped the work of this Division during the biennium. Mrs. Anne Cain, nurse consultant on hearing conservation resigned December 10, 1946, and has not been replaced. Miss Hannah Turnage, health educator, resigned on August 20, 1946, and was replaced in September, 1947, by Mrs. Annie Ray Moore. Dr. Walter J. Hughes, Negro physician, resigned on September 1, 1947, and has not been replaced. Dr. E. H. Ellinwood resigned as director of the School-Health Coordinating Service effective July 1, 1946. Dr. C. P. Stevick joined the staff as Co-Director for the State Board of Health on September 1, 1946, but has been on a part time basis since February 1, 1947. Mr. C. E. Spencer became Co-Director for the Department of Public Instruction effective July 1, 1946. In September, 1947, the position made available by a grant from the Rockefeller Foundation for a mental hygiene consultant was filled by R. M. Fink, Ph. D. This grant had been made several years previously but no suitable candidate had been found. The other members of the staff include two white and one colored nurse, a physical education specialist and a colored health educator. In July, 1947, two nutritionists who had been on the staff up to that time were transferred to the Division of Nutrition.

The School-Health Coordinating Service program has two primary components: (1) Health Service and (2) Health Education. In practice these components are intimately coordinated.

The health service phase of the program has been organized to achieve three objectives: (1) To find school children with health problems and arrange for their correction. (2) To establish as healthful an environment as possible to protect the health of the school population. (3) To promote the use of health services as teaching aids in health education.

The health education activities are directed toward the establishment of adequate health and physical education instruction of school children so that they will develop the habits, attitudes and understanding necessary to avoid the more important lifetime health hazards and to maintain themselves at a high level of general physical and mental health.

The use of modern methods of teaching health is stressed. It is felt that the most effective health teaching is done by means of educational experiences such as are provided by adequate health service. For this latter reason teacher participation in as many health services as possible is urged by the staff.

The School-Health Coordinating Service carries out the above program by consultation with School and Health Department personnel, and by planned in-service training courses both during the school season and in summer schools. In the summer of 1946, 41 teachers attended the courses

at the University of North Carolina and 43 at the North Carolina College for Negroes in Durham. In 1947, there were 36 white and 38 Negro teachers in attendance at the courses. Field work was carried out during the biennium for periods of one day to a month or more in at least half the counties of the state.

During the biennium a committee from the State Department of Public Instruction and State Board of Health completed a manual of screening for physical defects for use by schools and health departments. This manual was distributed widely in mimeographed form in 1947, and has been obtained in printed form for distribution to all remaining schools during the coming school year. As a result of the wide coverage of the state that has been completed during the eight years of its existence by the School-Health Coordinating Service and also as a result of increased emphasis on school health generally there has been a definite improvement in the North Carolina program to correct physical defects of school children.

Audiometer testing of school children to detect early hearing defects has been greatly increased during the biennium. Approximately twelve audiometers have been purchased by the cities and/or counties for local use and the necessary personnel have been trained by the School-Health Coordinating Service Staff.

The mental hygiene program, begun in September, 1947, has received wide acceptance. Materials for use by teachers in studying the mental growth of children and promoting mental hygiene in school age children have been secured and distributed in selected areas. An in-service training program for teachers and administrators has been instituted on as extensive a basis as present limitations of personnel will permit. Programs for classroom instruction in human relations and for sex education have been initiated in several local school districts. In all of the mental health services cooperation has been extended to and received from community agencies whose functions of health education overlap similar functions in the schools or health departments.

Adequate medical service has not yet become available to all schools in the State. This has been due in part to the various vacancies for local health officers that have existed and to the lack of funds for securing the services of physicians for school health work. Much of the present medical services in schools provided by other than health department personnel is secured by voluntary participation of physicians on a free basis according to program organized by health department and school administrators.

## DIVISION OF TUBERCULOSIS CONTROL

### 1. General

The Division of Tuberculosis Control has now been in operation for 3½ years and during this period the service has grown steadily. The number of persons x-rayed has increased from 60,552 during the period July 1, 1944 to June 30, 1946, to over 500,000 during the period of this report and this work has been accomplished while handicapped by a shortage of Medical personnel. The Division has been visited on three separate occasions by physicians of the U. S. Public Health Service and formal reports of their examination of the Tuberculosis Control Program have been submitted to the State Health Officer. These reports have been carefully reviewed by the Division Director and recommendations in such reports have been discussed with the State Health Officer and will be complied with where such recommendations can be carried out. Also the organization of Tuberculosis Control Divisions in other states has been studied for the purpose of getting a broad viewpoint of Tuberculosis Control. The Division, therefore, has a clear-cut knowledge of its mission, and with the co-operation of other State Agencies which are concerned with preventive medicine, we contemplate a useful service.

### 2. Personnel

Personnel at this time consists of:

<i>Position</i>	<i>Authorized</i>	<i>Actual</i>	<i>Shortage</i>
Physicians (including Director) .....	4	2	2
Sr. X-Ray Technicians .....	8	8	0
Jr. Photofluorographic Operators .....	3	2	1
Photofluorographic Trainees .....	2	2	0
Dark Room Technicians .....	2	1	1
Office Personnel .....	7	3	4
Totals .....	26	18	8

There is therefore a shortage of 2 physicians and 6 other personnel in this Division. One of the physicians, a Senior PH Physician has signified his intention of resigning in the early fall.

The former Director, Dr. T. F. Vestal, resigned as Director on February 14, 1948 and from that date until 19 April 1948 the Division functioned with one physician, Dr. Robert F. Bell, U. S. Public Health Service.

Dr. Bell was not only occupied with field work, such as conducting surveys and interpreting films, but on occasion it was necessary for him to return to the Central Office for the purpose of carrying out necessary administrative duties.

Dr. H. L. Quickel, F.A.C.P., who had formerly been associated with the State Board of Health, Industrial Hygiene Division, accepted the position of Senior PH Physician 19 April 1948.

Dr. W. A. Smith was appointed Division Director on 1 June 1948.

The matter of medical personnel shortage continues to be a serious problem and a plan similar to that used in other states has been prepared for having films interpreted by qualified radiologists. The Division will also require additional technicians and clerical help when 3 additional units are placed in operation. It is anticipated that these additional units should be in operation within the near future.

### 3. Budget

The 1946-47 budget was \$268,000 and of this amount \$245,120 was grant-in-aid funds from Federal Government and \$22,880 from State funds.

The 1947-48 budget is \$222,989 and of this amount \$200,109 was grant-in-aid funds from Federal Government and \$22,880 from State funds.

### 4. Equipment

- a. Property on hand at the beginning of the fiscal year was one trailer on lend-lease from the U. S. Public Health Service. This was equipped with x-ray apparatus which was property of this Division. More apparatus was procured within a short time and by September 1946 an additional trailer was fully equipped. More units were ready for functioning in January and in March 1947 and by January 1948 the Division had 5 complete mobile x-ray units in operation.
- b. Equipment now owned by the Division is:
  - (1) 5 mobile x-ray units complete
  - (2) 1 GE 200 MA unit installed at Duke Hospital
  - (3) 2 units on order and one x-ray unit on bid
  - (4) 2 empty trailers and one additional trailer to be procured
  - (5) 2 International Generators and one additional generator on order
  - (6) One Chevrolet Suburban Carryall
  - (7) One Ford Tractor truck (1 Generator unit mounted on this vehicle)
  - (8) Five International Tractor trucks K-7 and three on order
  - (9) One GMC Medical Laboratory Truck (1 Generator unit mounted on this vehicle).

We intend to operate 8 units within the near future.

- c. Our experience with this Division during surveys has been that the 70mm film was more desirable than the 4 x 10. The 4 x 10 cameras which were in use in two units were therefore removed and the 70mm type installed.
- d. The Division has constructed a darkroom in the basement of the Board of Health Building. This work was done through the personal efforts of Dr. Vestal, the former Director who was assisted by a technician. The room is well-constructed and well-equipped.

### 5. Operation of Surveys

At the beginning of the period 1 July 1946, the Division had at its disposal 2 mobile x-ray units. These units were augmented by 4 units and on occasion 6 units until November 1946. These additional units were the property of the U. S. Public Health Service and were accompanied by

complete personnel. During the time the Public Health Service furnished this equipment and personnel, 3 major surveys were made, namely, Cleveland, Gaston, and Wayne Counties where a total of 117,590 x-rays were taken from a 1940 population of 203,914.

In February 1947 the U. S. Public Health Service recalled all personnel except one doctor. The time when the Public Health Service operated here was invaluable to the State in orienting our personnel in the methods of mass chest x-rays. At this time the Division has 5 mobile x-ray units operating during surveys.

The places surveyed and number of films taken is noted below:

LOCATION	Total Examinations	Suspicious T.B.		Definite T.B.		Other	
		Number	Per 1000	Number	Per 1000	Number	Per 1000
Gaston County (Mass Survey).....	51,564	444	8.6	179	3.5	276	5.4
Cleveland County (Mass Survey).....	26,605	172	6.5	43	1.6	151	5.7
Rocky Mount (City Survey).....	13,344	222	16.6	47	3.5	81	6.0
Wake County Teachers.....	662	0	0	1	1.5	0	0
University of North Carolina (Chapel Hill & State College).....	12,178	17	1.4	18	1.5	5	0.4
Wayne County (Mass Survey) (Includes School survey).....	39,421	378	9.6	84	2.1	363	9.2
Negro Colleges: Concord, Salisbury, Greensboro, Durham.....	3,118	8	2.6	4	1.3	7	2.2
Shaw University.....	238	0	0	1	4.2	0	0
Washington High School.....	938	3	3.2	3	3.2	0	0
Mitchell-Avery-Yancey School Children.....	906	9	9.9	0	0	1	1.1
Caswell Training School (Kinston).....	926	13	14.0	36	38.9	1	1.1
State Hospital Goldsboro.....	800	14	17.5	17	21.3	16	20.0
Halifax County (Mass Survey).....	22,100	346	15.7	43	1.9	165	7.5
Wake County (Mass Survey).....	53,031	447	8.4	12	0.2	255	4.8
Braswell Farm, Battleboro (Included in Halifax County figures)							
Richmond County (By Dr. McCain).....	5,111	51	10.0	51	10.0	85	16.6
Cabarrus County (Mass Survey).....	6,724	30	4.5	5	0.7	3	0.4
Edgecombe County (Mass Survey).....	11,565	78	6.7	41	3.5	2	0.2
Catawba-Lincoln-Alexander (Mass Survey).....	40,633	232	5.7	14	0.3	109	2.7
Transylvania County (Mass Survey).....	5,082	56	11.0	11	2.2	8	1.6
Guilford County (Mass Survey).....	72,693	392	5.4	21	0.3	195	2.7
Buncombe County (Mass Survey).....	46,342	537	11.6	30	0.6	146	3.2
State College.....	5,000	17	3.4	1	0.2	4	0.8
Meredith College.....	266	2	7.5	1	3.8	0	0
Martin County (Mass Survey).....	12,375	89	7.2	8	0.6	59	4.8
Hoke County.....	3,258	61	18.7	12	3.7	75	23.0
Cumberland County (Mass Survey).....	31,310	130	4.2	9	0.3	125	4.0
New Hanover County (Mass Survey).....	34,902	222	6.4	14	0.4	131	3.8
Johnston County (Mass Survey)*.....	18,520						
Duplin County* (June portion).....	5,534						
Totals.....	525,146	3,970		706		2,263	
Counties figures complete.....	501,092	3,970	7.9	706	1.4	2,263	4.5

\*Breakdown for these two counties not available at this time.

## 6. Future Planning

Future planning is based on:

- a. Experience of the Division since it was organized,
- b. Comments and recommendations noted in the Tuberculosis Program Analysis and Evaluation by physicians of the U. S. Public Health Service,
- c. Study of the Tuberculosis Divisions in certain other states, .

This planning is outlined below:

- (1) Follow-up clinics to be conducted by the State Sanatoria,
- (2) Films to be interpreted at the Central Office. In the event a shortage of physicians prevents film interpretations, the films will be sent to qualified radiologists for interpretation.
- (3) Processing of all films at the Central Office, this, however, will be given further study.
- (4) Establishing a central case register,
- (5) Employment of one to two well-qualified consultant nurses,
- (6) The routine examination of Tuberculosis in all hospital in-patients and out-patients,
- (7) Survey of all mental institutions,
- (8) Establishing additional tuberculosis clinics with pneumothorax refill stations,
- (9) Closer liaison between the Tuberculosis Division, Board of Health, State Sanatorium Director and State Vocational Rehabilitation Department,
- (10) Appointment of a committee to advise the State Health Department of Tuberculosis Control,
- (11) Official group to work on tuberculosis legislation,
- (12) More x-ray surveys of industrial groups.

WILLIAM A. SMITH, M.D., *Director*  
Bureau of Tuberculosis Control

## DIVISION OF ORAL HYGIENE

The Division of Oral Hygiene is cognizant of the fact that much of its present well-being is due to the secure foundation upon which it was established.

North Carolina was the first state to put dentistry in a statewide public health program. This was done in 1918 by legislative enactment upon the recommendations and requests of the North Carolina Dental Society and the State Board of Health. Funds were provided by the legislature to help finance the program, and it has functioned from that day to this.

North Carolina was the second state in the Union to have a dentist as a member of the State Board of Health. The position has been held by three dentists, Dr. E. J. Tucker, Dr. J. N. Johnson, and Dr. Paul E. Jones. In 1931 legislation was enacted to the effect that each County Board of Health must have a dentist as one of its members. This was another North Carolina first.

The Division of Oral Hygiene is chiefly concerned with the prevention of dental diseases and of systemic diseases of dental origin and is in agreement with the statement made by the Council of Dental Health of the American Dental Association that "the prevalence of dental diseases and defects can be reduced most effectively by concentrating on the dental needs of children."

We all consider the child our greatest asset. One of our most cherished and loudly proclaimed principles is that every child born in North Carolina should have an opportunity to develop physically and mentally to his full capacity. We all agree that a child with any physical defect is a handicapped child and that a handicapped child does not have an equal chance in the world of keen competition that exists today.

This realization serves to point up the seriousness of the fact that tooth decay is the most prevalent physical defect. Eighty-five per cent of our children have dental defects. In other words, 850,000 of our 1,000,000 children of school age are in need of dental attention.

Contributing causes of this situation are low incomes, indifference, and lack of information. This last is a polite name for ignorance, ignorance of the importance of having a clean, healthy mouth and ignorance of the relationship of an unclean mouth to systemic disease.

The Division of Oral Hygiene is concentrating its efforts in attacking the last named of these causes. Its program, therefore, is one of education. The activity is centered in the public schools of the State.

The Division has, in addition to its Director, a staff of full-time dentists licensed to practice in North Carolina. These dentists are trained in children's dentistry and in methods of teaching. The dentists go into as many of the elementary schools as possible throughout the State and teach mouth health and its relation to general health.

After teaching in the classroom, the dentist inspects the mouths of all the children. This is done right in the classroom. When he has done his classroom teaching and has made his inspections, the dentists sets up his

office in the school building, using portable dental equipment. Here he makes the necessary dental corrections for the underprivileged children under thirteen years of age. This is termed demonstrative teaching.

Dental corrections are not made for all of the children. Many parents are financially able to take care of the dental needs of their children. The school dentists mail cards to these parents telling them that their children need dental attention and advising them to consult their own dentists.

The school dentists follow this same procedure from grade to grade and from school to school; teaching, inspecting, making corrections for the underprivileged, and referring others to their own dentists. All of the children receive the benefits of the program because it is educational.

The following is a summary of the corrective and educational services rendered by the dentists during the past biennium, July 1, 1946-June 30, 1948:

Number of counties visited .....	58
Number of schools visited .....	785
Number of children-mouths inspected .....	102,679
Number of underprivileged children receiving dental corrections....	46,259

### Amount and Class of Treatments Itemized as Follows

Number amalgam fillings .....	19,240
Number cement fillings .....	5,786
Number silver nitrate treatments .....	63,906
Number teeth extracted .....	39,403
Number children — teeth cleaned .....	43,474
Number miscellaneous treatments .....	3,950

Total Number of Operations .....	175,759
Number of lectures on Mouth Health .....	2,265
Total attendance at lectures .....	106,559

One of the most extensive phases of the work is the preparation and distribution of supplementary dental health materials to assist the teachers in their teaching of dental health. There are on the staff a trained teacher and an artist-illustrator who prepare this material. The material is available, without cost, to any teacher in the State who requests it. Its widespread use is indicated by the following figures showing materials distributed during a typical month, January 1948:

45,000	<i>Merry-Go-Rounds</i> (dental health news release for school papers) to 525 schools
1,085	Letters to children from Little Jack
425	<i>Travelogues</i> (books)
10,064	Sheets of educational material to classrooms
100	Sets of charts for classroom bulletin boards
174	Handbooks for Teachers
350	<i>Mouth Health Catechisms</i> for teachers and mothers
3,750	<i>Mouth Health Catechisms</i> to dentists in private practice
178	Posters
30	Sample kits of all materials to Health Educators
15	Sample kits of all materials filling requests from out of state



An interesting and gratifying development in this educational program is that it has reached the age and stage at which dividends from the work of former years are being realized. Many of our young teachers and parents were "raised on" the program, and the children in their grades and homes are benefiting from the teaching of school dentists fifteen years ago. It has been said many times that ours is a long-time program. We are entering on the era to which we have been looking forward — when the babies' and children's teeth reflect in their very structure and care the information and habits their mothers acquired in the elementary grades.

A basic factor in the operation of the dental health program is that of local community participation. First and foremost, each county or city is vitally interested in the service it receives because it shares in the expense of the program. Many local groups are represented in planning for and cooperating in the program. While the public health dentist is in a county, he becomes a part of the local Health Department and the health officer and nurses assist him while he is there and follow up his work after he has gone. Of course the help of the school personnel, from the county superintendent to the janitor, is essential to the success of the program. Especially must we depend upon the classroom teachers.

At the moment there is widespread interest in sodium fluoride therapy as a preventive measure in the control of dental caries. We believe that the topical application of a two per cent sodium fluoride solution to the teeth of children offers promise in the field of prevention. As a service to the dentists in private practice and to encourage its use, the Division of Oral Hygiene, with the cooperation of the Laboratory of Hygiene, furnishes the two per cent sodium fluoride solution, free of charge, to the dentists of the State. Over 700 dentists in private practice are availing themselves of this service and are offering the treatment to their child patients. The dentists on the staff of the Oral Hygiene Division are applying the solution to the teeth of as many of the underprivileged children of the State as possible.

It should be noted that only fifty-eight counties participated in the services of the Oral Hygiene Division. This was through no default on the part of the other counties but was due, rather, to the inability of the Oral Hygiene Division to furnish them the desired service. Inability to provide dental service to all counties has been caused by lack of personnel. In 1942 there were thirty-four full-time dentists on the staff. Due to the war and postwar conditions this number has been greatly reduced. However, the recent approval by the Budget Bureau of more adequate beginning salaries for public health dentists has enabled us to start the new biennium with four additional well-qualified dentists. Prospects for further recruitment of the staff are encouraging. The establishment of the proposed dental school in North Carolina should be the means of our being able to maintain an adequate staff of public health dentists.

It is with renewed confidence and high expectations that we look forward to the work of this biennium. We believe that significant progress will be made in the attainment of our goal, "the prevention of dental diseases and of systemic diseases of dental origin."

## Medical

Total .....	31
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Case histories and medical reports prepared for the North Carolina Industrial Commission .....	45
Supplemental reports for above .....	15
Testimony given in compensation hearings before North Carolina Industrial Commission .....	18
Compensation hearings attended testimony not requested ....	2
Findings in compensation hearings: S1 .....	1
S2 .....	8
S3 .....	2
*A2 .....	2
*EN .....	3
Idiopathic emphysema .....	1
Undiagnosed .....	2
<hr/>	
Total compensation hearings attended .....	20
Special examinations for compensation hearings .....	30
Conferences attended .....	26
Autopsies attended .....	0
*S1—First degree Silicosis (early stage)	
S2—Second degree Silicosis (advanced stage)	
S3—Third degree Silicosis (far advanced stage)	
A2—Second degree Asbestosis (advanced stage)	
EN—Essentially Negative.	

## Engineering

Engineering activities of this Division were greatly expanded during period covered by this report. In June, 1947 two chemical engineers were added to our staff and sent to Georgia School of Technology for graduate training in industrial hygiene. Twenty-one graduate hours credit was gained by these individuals. During the year from June 30, 1946 until July 1, 1947 limited personnel permitted examinations of only plants involving siliceous dust hazards as assigned by North Carolina Industrial Commission. During the following year, June 30, 1947 until July 1, 1948, practically every plant located in the State having a siliceous dust hazard was visited and report of findings submitted to North Carolina Industrial Commission and other interested parties. With additional engineering personnel we were able to render services to many plants other than those with only a siliceous dust hazard. Some of the industries receiving engineering services were: fertilizer manufacturing, furniture, full fashioned hosiery, battery manufacturing, cotton textiles and asbestos textiles. These services were rendered along with training of new personnel following former training received at Georgia School of Technology.

During May of 1947 a badly needed x-ray diffraction unit, used in analyzing crystalline dust, was installed in our laboratory but has never been used since it will be necessary that some member of our staff visit a laboratory using this type equipment in order to become familiar with film interpretation. This equipment should prove of great benefit to the Division and accelerate evaluations of occupational exposures to toxic materials.

We are well aware of the desire on the part of North Carolina industry to better working conditions and appreciate that this is a most opportune time for introduction of industrial hygiene programs. We remain understaffed but are attempting to offer maximum service with present staff. A compilation of activities during this period is given below which more clearly presents an over-all picture of the activities.

	<i>July, 1946</i> <i>June, 1947</i>	<i>July, 1947</i> <i>June, 1948</i>	<i>Total</i>
I. FIELD			
A. Plants visited .....	139	182	321
1. For routine inspection .....	102	64	166
2. For special Industrial Hygiene			
Surveys .....	37	112	149
a. Samples atmospheric contami-			
nants collected .....	237	234	471
(1) Dust .....	155	212	367
(2) Other .....	82	22	104
3. Number workers involved .....	12,377	17,768	30,145
II. LABORATORY			
A. Analyses .....	197	271	468
1. Dust .....	158	240	398
a. Particle count .....	150	237	387
b. Particle size .....	0	0	0
c. Petrographic .....	0	0	0
2. Other contaminants .....	35	31	66
III. MISCELLANEOUS			
A. Reports .....	154	125	279
1. Routine inspections .....	102	22	124
2. Special Industrial Hygiene			
Surveys .....	37	90	127
3. Monthly .....	12	10	22
4. Annual .....	3	0	3
B. Conferences and Meetings .....	15	10	25
C. Papers Presented .....	1	1	2

OTTO J. SWISHER, JR., M. D., *Director*  
Division of Industrial Hygiene

## BUREAU OF CANCER CONTROL

The General Assembly of 1945 passed the Cancer Act — H. B. 786 (General Statutes, Chapter 130, Art. 28). The bill was enacted without allocation of funds since it came up for final reading after the Committee on Appropriations had completed its work. The Legislature in 1947 appropriated \$19,500.00 for each year of the biennium to be used for administrative purposes.

For more than two years the State Health Officer and the Chairman of the Cancer Committee of the North Carolina State Medical Society endeavored to obtain the services of a physician with reasonable qualifications for the position of Director of Cancer Control but were unsuccessful on account of the low salary offered at that time. From October, 1946 to March, 1948, Dr. G. M. Cooper, the Director of the Division of Preventive Medicine, was Acting Director of the Division without additional pay. Dr. Cooper prepared a plan of control based upon the plan of the Crippled Children's Program. This plan was presented in October, 1946, at a call meeting of representatives of the State Board of Health, the Cancer Committee of the State Medical Society, and the North Carolina Division of the American Cancer Society. The meeting resulted in the creation of a Committee called the North Carolina Cancer Control Planning and Policy Making Board, which consists of representatives of the three organizations, including the State Health Officer, the Chairman of the Cancer Committee of the State Medical Society and the Commander of the North Carolina Division of the American Cancer Society. The Board was created in order to co-ordinate the activities and interest of all groups working on the problem of State Cancer Control. The Board was further authorized to act in a consultative and advisory capacity to this division.

Following this meeting Dr. Cooper prepared and carried forward the program by distributing to every physician in the State a well written, beautifully and graphically illustrated bulletin.

On December 1st, 1947, the State Health Officer and the Chairman of the State Cancer Committee requested Dr. Ivan Procter to prepare in detail a program of cancer control for the State of North Carolina, using as a basis his experience and also his information gained from studying and personal visits to cancer control centers in eastern and southern states. When the program was complete it was presented to the State Health Officer and by him to the State Board of Health, then by the Division Director to the Cancer Committee of the North Carolina State Medical Society for its approval. After a few amendments were inserted the program was unanimously adopted.

At a later date the program was presented to Dr. Charles S. Cameron, Medical Director of the American Cancer Society, who complimented the economic and efficient approach to the problem of screening large numbers of citizens. He felt that adoption of a similar plan in other states would carry forward the gigantic task of national cancer control. The economic feature of this program differs from cancer detection plans in other states in that our policy is to spend all available funds solely for cancer control rather than partly for general health measures.

March 1st, 1948, the Division began an active plan of statewide cancer control with Ivan Procter, M. D., as Director and Mildred Schram, Ph. D., as Field Director.

During the four months, March 1st-June 30th, the Division Director and Field Director made at least two trips to each of the following counties: New Hanover, Buncombe, Mecklenburg, Forsyth, Durham-Orange, and Wake in order to explain the program in detail to first the officers of the county medical societies, then to the entire membership. In each instance the program was adopted by a large majority. Following this the clinic directors, detention examiners, and diagnostic management staff were elected. Hospital superintendents were interviewed and location for clinics chosen. Arrangements were made for clerical and nursing assistance, as well as for a large number of volunteer nurses aides and receptionists. Furniture and instruments adequate to operate the dual clinics were ordered through the Department of Purchase and Contract.

The Director and associate worked out a multitude of details, prepared detection, diagnostic, and malignancy charts, as well as a dozen form letters and weekly reports to be made by each cancer center secretary.

The clinic staff was briefed by the Director and the other personnel given detailed instruction by the Field Director. On April 27th the New Hanover Cancer Center was placed in operation at Wilmington. June 15th the Buncombe County Cancer Center was placed in operation at Asheville. Each center operates one day weekly and usually runs at capacity of thirty-two examinees in the Detection Department, with five to eight patients in the Diagnostic Management Center. During the initial months three per cent of examinees were found to have cancer.

It is proposed to establish a total of seven diagnostic management centers in cities where specialists are available to form a complete staff. A total of fifteen detection centers are to be established throughout the state in strategic locations so that no citizen of the state will be required to travel more than fifty miles for examination.

## SENIOR PUBLICITY SPECIALIST

The Senior Publicity Specialist, attached to the Division of Central Administration and working under the direct supervision of the State Health Officer, reports the following activities for the biennial period of July 1, 1946-June 30, 1948:

Approximately 104 weekly broadcasts, of fifteen-minutes each, were made over Radio Station WPTF, in Raleigh. In addition to these, cooperation was maintained during the period with Radio Station WRAL, and with Radio Station WNAO, after its establishment, by supplying these stations with all news items prepared for the information of the public. Radio activities have become an important part of the publicity program, with the increased number of broadcasting stations.

The Senior Publicity Specialist also has maintained a working relationship with the various news gathering agencies, including the Associated Press and the United Press, and has continued the preparation and distribution of news items to the newspapers of the State.

Each year, including the period covered in this report, the Senior Publicity Specialist, following a precedent set in 1938, has acted as official reporter for the Medical Society of the State of North Carolina, in connection with the annual meetings of the Society; he also has served as chairman of the Publicity Committee of the State Nutrition Committee, and has been privileged to cooperate with other agencies interested in Public Health, including the North Carolina Good Health Association, being a member of its Advisory Committee.

Information also has been furnished private citizens making application for it.







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